Clayton Environmental Consultants

A Marsh & McLennan Company

Groundwater Monitoring Investigation at
Stoody Company
City of Industry, California

Clayton Project No. 21171.00 June 22, 1989

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EXECUTIVE SUMMARY

Clayton Environmental Consultants, Inc. was retained by the Stoody Company to develop a general housekeeping plan, and to develop and implement an initial subsurface soil investigation at their facility located at 16425 Gale Avenue in the City of Industry, California.

The housekeeping plan and initial subsurface investigation were requested by the California Regional Water Quality Control Board (CRWQCB), as a result of their March 1988 inspection of the Stoody Company facility.

Information gathered during the initial subsurface investigation begun in July 1988 led the CRWQCB to request the preparation and implementation of a groundwater monitoring workplan at the facility.

The objective of the implemented groundwater monitoring investigation was to assess the condition of groundwater located beneath the facility. General activities included in the investigation were groundwater monitoring well installation (including subsurface soil sample collection and analysis), groundwater sample collection and analysis, and report preparation.

Laboratory analysis of soil samples collected during monitoring well installation indicated relatively low concentrations of a small number of chemical compounds. Based on these relatively low concentrations, and the low concentrations of compounds detected in soil samples collected during the initial subsurface soil investigation, it appears that soil remediation is not necessary.

Laboratory analysis of groundwater samples showed that various chemical compounds were present in the groundwater. However, it appears that these are attributable to offsite sources.

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Groundwater Monitoring Investigation at Stoody Company City of Industry, California

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Clayton Environmental Consultants, Inc.

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1.0 INTRODUCTION

This document presents the report of the activities associated with the groundwater monitoring investigation conducted at the Stoody Company facility located at 16425 Gale Avenue in the City of Industry, California (Figure 1).

1.1 BACKGROUND

On March 16, 1988, the Stoody Company facility was inspected by California Regional Water Quality Control Board (CRWQCB) staff member Mr. Dainis Kleinbergs. As a result of that inspection, Stoody was directed to develop a general housekeeping plan and to conduct an initial subsurface soil investigation at their City of Industry facility.

In June of 1988, Clayton Environmental Consultants, Inc. was retained by Stoody to develop the general housekeeping plan and to develop and implement the initial subsurface soil investigation work plan. On July 19, 1988 Clayton obtained approval of the proposed housekeeping plan and initial subsurface investigation workplan from Mr. Roy Sakaida of the CRWQCB. The initial subsurface investigation was implemented in July 1988. Clayton's final report of that investigation was presented to the CRWQCB on October 19, 1988 (Clayton Project Number 49537-73). Included with the soil investigation report was Stoody's proposed groundwater monitoring work plan, as required by the CRWQCB.

Clayton began implementation of the groundwater monitoring work plan in January 1989 after receiving approval from both the CRWQCB (Appendix A) and Stoody Company.

1.2 OBJECTIVE

The objective of the groundwater monitoring investigation was to assess the condition of groundwater located beneath the facility.

1.3 SCOPE OF WORK

Activities included in the groundwater monitoring investigation were as follows:

- Continue drilling of previously drilled Soil Borehole SB-5. Collect a soil sample immediately above groundwater.
- Drill one vertical borehole adjacent to the chemical waste barrel storage area. Collect soil samples immediately below the ground surface and immediately above the groundwater.
- Drill one vertical soil borehole at the northeast corner of the main facility building. Collect soil samples immediately below ground surface (bgs) and immediately above groundwater. Collect a soil sample from the saturated groundwater zone and submit this sample for grain size analysis.
- Seal, preserve, and ship soil samples to a California state-certified laboratory for analysis, using standard chain-of-custody procedures.
- Utilize grain size analysis and other data to design groundwater monitoring wells.
- Drill the three boreholes to 21 feet below groundwater surface. Install groundwater monitoring wells (MW-1, MW-2, MW-3).
- Survey the wellheads of the three wells installed. (A professional surveyor used an
 established benchmark to measure the elevation of each well head with respect to mean sea
 level).
- Calculate site groundwater flow direction and gradient using the well survey information.
- Develop and purge the three monitoring wells after installation. Collect groundwater samples after development, and submit them for laboratory analysis.
- Install an upgradient monitoring well (MW-4) in line with the nearest downgradient well.
 Collect soil samples during the drilling of the borehole drilled for the installation of Monitoring Well MW-4 and submit them for laboratory analysis.
- Survey the wellhead of Monitoring Well MW-4.
- Develop and purge Monitoring Well MW-4 after installation. Collect groundwater samples after well development, and submit them for laboratory analysis.
- Evaluate the field data and laboratory analytical results.
- Prepare a final report.

2.0 GROUNDWATER INVESTIGATION

2.1 GROUNDWATER MONITORING WELL INSTALLATION

On January 23, 1989, Monitoring Wells MW-1, MW-2, and MW-3 were installed onsite in the locations shown on Figure 2. Monitoring well permits were obtained from the Los Angeles County Department of Health Services.

The monitoring wells were designed after (1) review of the California Site Mitigation Decision Tree Manual (May 1986), (2) "Selection and Installation of Well Screens and Gravel Packs" (undated), and (3) review of field observations from initial drilling and soil sampling. Based on a grain-size analysis and field observation of fine-grained soil materials, Clayton decided to use a 0.01-inch well casing slot size. We believe that the next available larger slot size (0.02-inch) would allow formation materials to rather readily enter the well bore, and the next available smaller size (0.006-inch) might clog with formation materials or hinder water flow into the wellbore. The wells were installed with a Number 2 Monterey-type sand. This sand pack was partially developed, as explained below, to minimize the potential for bridging and to better "pack" the sand pack into place.

Soil Boreholes SB-6 and SB-7 were drilling, sampled, and converted to Monitoring Wells MW-1 and MW-2, respectively. Monitoring Well MW-3 was installed in the previously-drilled soil borehole, SB-5.

A Mobile B-61 drill rig was used to advance continuous-flight, hollow-stem, 11-inch outside diameter (O.D.) augers in the boreholes. Augers were steam-cleaned between boreholes to minimize the potential for cross contamination.

Soil samples were collected and retained for analysis at 1 and 25 feet bgs in Boreholes SB-6 and SB-7, and at 25 feet bgs in the previously drilled SB-5. Soil samples were collected at 1, 5, and 10 feet bgs in SB-5 during the initial subsurface soil investigation. Samples were also collected at 5, 10, 15, 20, and 30 feet bgs in Boreholes SB-6 and SB-7 and at 15, 20, and 30 feet in Borehole SB-5. However, these samples were used for soil description and field analysis and were not submitted for laboratory analysis as no field indications of contamination were observed. The samples were collected using a 2-1/2-inch inside diameter (I.D.) split-barrel sampler lined with two 6-inch by 2-1/2-inch brass sample tubes. The split-barrel sampler was cleaned with tap water and TSP (trisodium phosphate) and rinsed with tap water between sampling intervals. The boreholes were logged by a Clayton geologist working under the supervision of a California Registered Geologist. Borehole logs are provided in Appendix B.

Two soil samples were collected at each depth. The first brass sample tube collected at each depth was sealed on each end with aluminum foil, plastic end caps, and electrical tape. It was then labeled, inserted in a self-sealing plastic bag, and placed on "blue-ice" in a portable ice chest. The samples were transported to West Coast Analytical Services, Inc. in Santa Fe Springs, California for analysis following standard chain-of-custody procedures.

Soil from the second sample collected at each depth was subjected to field headspace analysis. This was done by half-filling an 8-ounce glass jar with soil taken from the second sample tube and capping the jar with a TeflonTM-lined lid. These samples were allowed to volatilize in direct sunlight for a minimum of 30 minutes. At the end of the volatilization period, the sensor end of a PhotovacTM photoionization detector (PID) was inserted into a predrilled, tape-covered hole in the jar lid. The level of volatile organic compounds (VOCs) in the jar

headspace, as measured by the PID, was recorded on the borehole logs (Appendix B). The PID meter was also used to monitor worker breathing zone and borehole soil cutting VOC concentrations.

After groundwater was encountered in each borehole, the augers were removed from the borehole and a wooden plug installed in the lead auger. The augers were advanced to 21 feet below the encountered groundwater level in each borehole. After total depth was reached in a borehole, the augers were filled with deionized water up to the groundwater level and the wooden plug knocked out of the lead auger. This procedure was followed in each borehole to minimize the heaving of soils into the augers by equalizing hydrostatic pressure.

After removal of the plug, the well casing was lowered into the annular space of the augers. The casing consisted of 4-inch inside diameter (I.D.) Schedule 40 threaded PVC. Thirty feet of 0.01-inch machine slotted well screen with a threaded PVC end cap made up the lower portion of each well. This was topped by blank casing which extended upward to the ground surface. The blank casing was topped by locking, water-tight well caps.

The well filter pack (Number 2 Monterey-type sand) was hand-poured into the annular space of the augers, between the augers and the well casing. The filter pack extended from 1 foot below the bottom of the casing to approximately 3 feet above the top of the screened interval of the casing. The wells were partially developed with a surge block to settle the filter pack. Additional filter pack was added after settling to maintain the desired level of the filter pack.

After filter pack installation, 1/4-inch diameter bentonite pellets were hand-placed, as a well seal, on top of the filter pack. The pellets were hydrated with deionized water, maintaining a ratio of approximately 1 gallon of water per 6-inch layer of pellets. The pellets were allowed to hydrate for approximately 30 minutes. After that time, a cement-bentonite grout was placed on top of the well seal. Locking, flush-mounted, heavy-duty well head boxes were imbedded in the cement grout to protect the wellheads. The well completion diagrams are provided in Appendix C.

2.2 GROUNDWATER MONITORING WELL DEVELOPMENT AND SAMPLING

2.2.1 Well Development

The monitoring wells (MW-1, MW-2, and MW-3) were developed 7 days after installation on January 30, 1989. Well development was performed with a steel bailer and surge block attached to a truck-mounted mast/pulley system.

The wells were bailed initially with the steel bailer to remove sediment present in the bottom of the wells. The surge block was then used to surge the screened interval of the wells. The block was raised and lowered in 3-foot intervals within the screened portion of the wells. This was done to draw sediment into the well bore. After surging was completed, the wells were bailed again with the stainless steel bailer to remove the sediment brought into the wells by surging.

After the bailing and surging cycle was completed, five casing volumes of water were removed from each well, using the bailer. In addition, the amount of water added to the wells during installation was also removed by bailing. Water quality parameters (pH, temperature, and electrical conductivity) were measured during bailing. Development was discontinued on each well after the measured parameters were within 10 percent of those

of the previous casing volume, indicating parameter stabilization, and the water drawn from the wells appeared relatively free of suspended sediment.

2.2.2 Well Sampling

The wells (MW-1, MW-2, and MW-3) were sampled 10 days after installation on February 2, 1989. A minimum of three casing volumes of water was removed from each well. The water was removed through the use of hand-held PVC bailers. Water quality parameters (pH, temperature, and electrical conductivity) were measured after each casing volume was removed (Appendix D). Bailing was discontinued after the parameters stabilized to within 10 percent of the values obtained from the previous casing volume.

Hand-held TeflonTM bailers, attached to nylon line, were used to collect the groundwater samples. The bailers were cleaned with tap water and TSP between sampling events. The washing was followed by a double rinse with tap water. New sections of nylon line were used at each well. The samples were collected using containers and preservatives deemed appropriate by the sampling and preservation guidelines of the U.S. EPA (EPA 40 CFR 136). The sample containers were labeled, wrapped in shock-absorbing foam sheeting, and placed on ice in a portable cooler. The samples were transported to Clayton's state-certified laboratory in Pleasanton, California for analysis.

Groundwater removed from the wells during sampling was placed in Class 17-H, 55-gallon drums appropriate for water collection. The drums were labeled and placed in an appropriate location onsite for disposal by Stoody Company.

2.3 SURVEYING OF MONITORING WELL WELLHEADS

The wellheads of the monitoring wells were transit-surveyed by a registered professional civil engineer after installation was completed.

The elevation of the top of the casing of each well was surveyed, relative to mean sea level, from an established local benchmark. Horizontal distances and vertical elevations are accurate to within 0.01 feet. The well survey diagram showing the wellhead locations and California coordinates is provided in Appendix E. The well head coordinates are also listed in Table 1.

2.4 DEVELOPMENT OF FIRST-GROUNDWATER CONTOURS AND FLOW DIRECTION

The elevation of the top of the casing of each well, with respect to mean sea level, was provided from the well survey. Elevations were surveyed from City of Industry Benchmark G5A. Depth to groundwater was measured in each well, using a Slope Indicator Co. water level indicator. Well casing elevations and depth to groundwater measurements were used to calculate water table elevations in each well. These are listed in Table 1. The three measured water levels and surveyed horizontal distances between the wells were used to approximate a triangular area upon the groundwater table, which was assumed to have a planar orientation in the subsurface. This allowed for the use of a standard 3-point graphic and geometric solution (geologic 3-point problem) to calculate groundwater contour elevations and flow direction (Appendix F). Groundwater elevation contours from 323 to 327 feet above mean sea level (with a 1-foot contour interval) are shown on Figure 3. The calculations performed using the water level data indicate that groundwater flow direction is to the west-northwest (Figure 3).

2.5 INSTALLATION OF UPGRADIENT MONITORING WELL

Following the assessment of groundwater flow direction, an upgradient monitoring well (Monitoring Well MW-4) was installed on March 6, 1989. Monitoring Well MW-4 was placed in its location at the direction of the CRWQCB. Its location is upgradient of the previously installed wells as indicated by Clayton's assessment of groundwater flow direction.

A Mobil B-61 drill rig was used to advance continuous-flight, hollow-stem, 11-inch O.D. augers. Soil samples were collected at 1 and 25 feet bgs. Sampling procedures and headspace analysis procedures used in the previous drilling episodes were followed. The borehole log is provided in Appendix B.

After groundwater was encountered, the augers were removed from the borehole and a wooden plug was inserted into the lead auger. The augers were placed in the borehole and drilling was continued to 21 feet below the encountered groundwater level. The augers were then filled up to the groundwater level with deionized water and the plug was knocked out of the augers. As before, this was done to minimize the heaving of formational material into the augers.

The groundwater monitoring well was installed using the procedures and design used for the first three wells that were installed. The well completion diagram is included in Appendix C.

The monitoring well was developed on March 10, 1989 and sampled on March 28, 1989. Development and sampling procedures outlined previously were employed during these field operations. The groundwater samples were shipped, following standard chain-of-custody procedures, to Clayton's Pleasanton, California laboratory for analysis. Soil samples were shipped to West Coast Analytical Services, Inc. in Santa Fe Springs, California.

The groundwater removed during development and sampling was placed in Class 17-H, 55-gallon drums. These were labeled and placed in an appropriate location onsite for disposal by Stoody Company.

The wellhead of Monitoring WEII MW-4 was also surveyed by a professional surveyor. Its elevation and location in relation to California coordinates are shown in Table 1 and on the diagram included in Appendix E.

3.0 LABORATORY ANALYTICAL RESULTS

Laboratory analyses were provided by Clayton's laboratory, located in Pleasanton, California and by West Coast Analytical Services, Inc., located in Santa Fe Springs, California. Both laboratories are certified by the California Department of Health Services.

The soil samples submitted for analysis were analyzed in accordance with Environmental Protection Agency (EPA) Methods 8240 (for volatile organics) and 418.1 (for total petroleum hydrocarbons).

The groundwater samples were analyzed using EPA Method 624 (for purgeable organics).

Laboratory analytical results are summarized in Tables 2 and 3. Laboratory analytical reports, along with the appropriate chain-of-custody forms, are provided in Appendix G.

3.1 SOIL SAMPLE ANALYTICAL RESULTS

As stated, the soil samples were analyzed using EPA Methods 8240 and 418.1, which test for volatile organic compounds and total petroleum hydrocarbons, respectively.

Soil samples collected at 1 and 25 feet bgs in Boreholes SB-5, SB-6, and SB-7 (converted to MW-1, MW-2, and MW-3, respectively) were submitted for analysis. In addition, soil samples collected at 5, 10, 15, 20, and 25 feet bgs in Borehole MW-4 were submitted for analysis.

As indicated by the laboratory analytical reports, analysis by EPA Method 8240 showed that carbon disulfide was detected in the sample collected at 25 feet bgs in Borehole SB-6 at a concentration of 7 micrograms per kilogram (ug/kg).

Using EPA Method 8240, acetone was detected in soil samples collected from Borehole MW-4, at concentrations ranging from 30 to 48 ug/kg. Also, methylene chloride was detected at a concentration of 52 ug/kg in the sample collected at 20 feet bgs in Borehole MW-4.

Soil samples from boreholes SB-5, SB-6, SB-7 and MW-4 were analyzed for total petroleum hydrocarbons (TPH) using EPA Method 418.1. Laboratory analytical reports of analysis by EPA Method 418.1 indicate that TPH were not detected at a detection limit of 10 mg/kg. Laboratory analytical results of the soil samples are summarized in Table 2.

3.2 GROUNDWATER SAMPLE ANALYTICAL RESULTS

The groundwater samples collected from monitoring wells MW-1, MW-2, MW-3, and MW-4 were analyzed for purgeable organic compounds using EPA Method 624.

As indicated by the laboratory analytical reports, a variety of compounds were detected in the groundwater samples. These compounds and their concentration ranges are as follows: (1) 1,1-dichloroethene at 11 to 61 micrograms per liter (ug/L); (2) trichloroethene at 25 to 130 ug/L; (3) tetrachloroethene at 55 to 190 ug/L; (4) toluene at 3 ug/L; (5) freon 113 at 3 to 10 ug/L; (6) benzene at 31 ug/L; and (7) chlorobenzene at 39 ug/L. Not all compounds listed above were detected in samples from each well. Table 3 lists the various compounds detected in each sample and their respective concentrations.

4.0 **DISCUSSION**

As stated in Sections 3.1 and 3.2, various chemical compounds were detected in some of the soil and groundwater samples that were submitted for analysis. In the following section we will recap our discussion of these compounds as given in Sections 3.1 and 3.2. Additionally, we will discuss the significance of the absence (in the soil samples) of compounds detected in the groundwater. The concentrations of the detected compounds were compared to drinking water action levels (State Action Levels or SALs) developed by the California Department of Health Services (DHS; January 1987), and to guidance cleanup levels developed by the California Regional Water Quality Control Board, Central Valley Region (CRWQCB, November 1985, revised September 1987), and designated levels to protect groundwater in a solid as developed by the CRWQCB. The guidance cleanup level values were taken from examples of designated levels of chemical compounds for a hypothetical "average" site in a solid (soil) to protect groundwater.

Of the soil samples collected in Boreholes SB-5, SB-6, and SB-7, only one contained detectable concentrations of a chemical compound. Carbon disulfide, at a concentration of 7 ug/kg, was found in the sample collected at 25 feet bgs in SB-6 (converted to MW-2). No SAL, guidance cleanup level, or designated level was listed for this compound.

Relatively minor concentrations of acetone were detected in the MW-4 soil samples. As indicated in Table 2, this compound was detected in the samples collected at 5, 10, 15, 20, and 25 feet bgs at concentrations of 30, 34, 37, 45, and 48 ug/kg, respectively. No SAL, guidance cleanup level, or designated level was listed for acetone.

The soil sample collected at 20 feet bgs in MW-4 was found to contain methylene chloride at a concentration of 52 ug/kg. This is slightly above the 40 ppb SAL for methylene chloride.

Of the various compounds detected in groundwater samples collected from Monitoring Well MW-1, three exceeded their SALs; 1,1-dichloroethene at 31 ug/kg (6 ppb SAL), trichloroethene at 130 ug/kg (5 ppb SAL), and tetrachloroethene at 190 ug/L (100 ppb SAL). However, all three compounds were also detected in the upgradient well (MW-4). These compounds were not detected in the soil samples collected from either the MW-1 location or from the MW-4 location. These data indicate an offsite source for the compounds detected in the groundwater.

The groundwater samples collected from Monitoring Well MW-3 contained two compounds that exceeded their SALs; trichloroethene at 25 ug/L (5 ug/L SAL) and tetrachloroethene at 64 ug/L (4 ug/L SAL). However, as before, these compounds were also detected in the upgradient MW-4 groundwater samples and were not detected in the soil samples collected from the MW-3 location or the MW-4 location. Once again, an offsite source for these compounds is indicated.

Analytical results of the groundwater samples collected from Monitoring Well MW-2 report that seven compounds were detected (Table 3). Of these, five exceeded their SALs. However, three of these compounds were also detected in the upgradient well (MW-4) groundwater samples and were not detected in soil samples collected onsite. Additionally, the other two compounds detected in the MW-2 groundwater sample were not detected in soil samples collected onsite. This again indicates an offsite source for these compounds.

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5.0 CONCLUSIONS

Eight soil boreholes were drilled onsite to depths ranging from 10 to 46 feet bgs. Five of these were drilled during the initial subsurface soil investigation and the remaining three were drilled during the following groundwater investigation. Groundwater monitoring wells were installed in four of these boreholes.

Soil/groundwater samples were collected from each borehole/well and subjected to laboratory analysis using one or more of the following EPA Methods as appropriate: 8240, 418.1, and 624.

Groundwater depth in the wells varied from 24.11 to 26.32 feet bgs from top of casing, across the site. Based on surveyed wellhead elevations and measured depths to water, groundwater flow direction was calculated to be to the west-northwest. Groundwater contour elevations across the site range from 323 to 327 feet above mean sea level.

Laboratory analyses of soil samples collected in the boreholes drilled for monitoring well installation showed relatively minor concentrations of a few purgeable organic compounds including carbon disulfide, methylene chloride and acetone.

Laboratory analyses of groundwater samples collected from the downgradient monitoring wells (MW-1, MW-2, and MW-3) report some compounds at concentrations above their respective SALs. However, the majority of these compounds are also present in samples collected from Monitoring Well MW-4, (the upgradient monitoring well). Additionally, no compounds detected in the monitoring wells were detected in the soil samples collected onsite. These data indicate an offsite source (or sources) for these compounds.

6.0 RECOMMENDATIONS

Our stated conclusions lead Clayton to make the following recommendations:

- The subsurface investigation report should be submitted to the CRWQCB for their review and approval.
- Chemical compound concentrations detected in soil do not exceed CRWQCB guidance cleanup levels, where established. Therefore, no further work is thought to be necessary concerning soil.
- Analysis of groundwater samples indicates that groundwater beneath the site has been impacted by chemical compounds. It appears that these chemicals have originated from offsite sources. This should be assessed through additional investigation by the following tasks:
 - (1) Resample Monitoring Wells MW-1, MW-2, MW-3, and MW-4 and analyze the collected groundwater samples.
 - (2) Investigate environmental regulatory agency records concerning hazardous material incidents in surrounding upgradient areas in an attempt to identify possible offsite sources for compounds detected in the groundwater samples.

7.0 REFERENCES CITED

- California Department of Health Services, Toxic Substances Control Division, Alternative Technology and Policy Development Section, The California Site Mitigation Decision Tree Manual, May 1986.
- California Regional Water Quality Control Board, Central Valley Region, November 21, 1985, Guidance Document (Draft), Waste Classification and Cleanup Level Determination by Jon B. Marshack, Environmental Specialist, Environmental Support Section.
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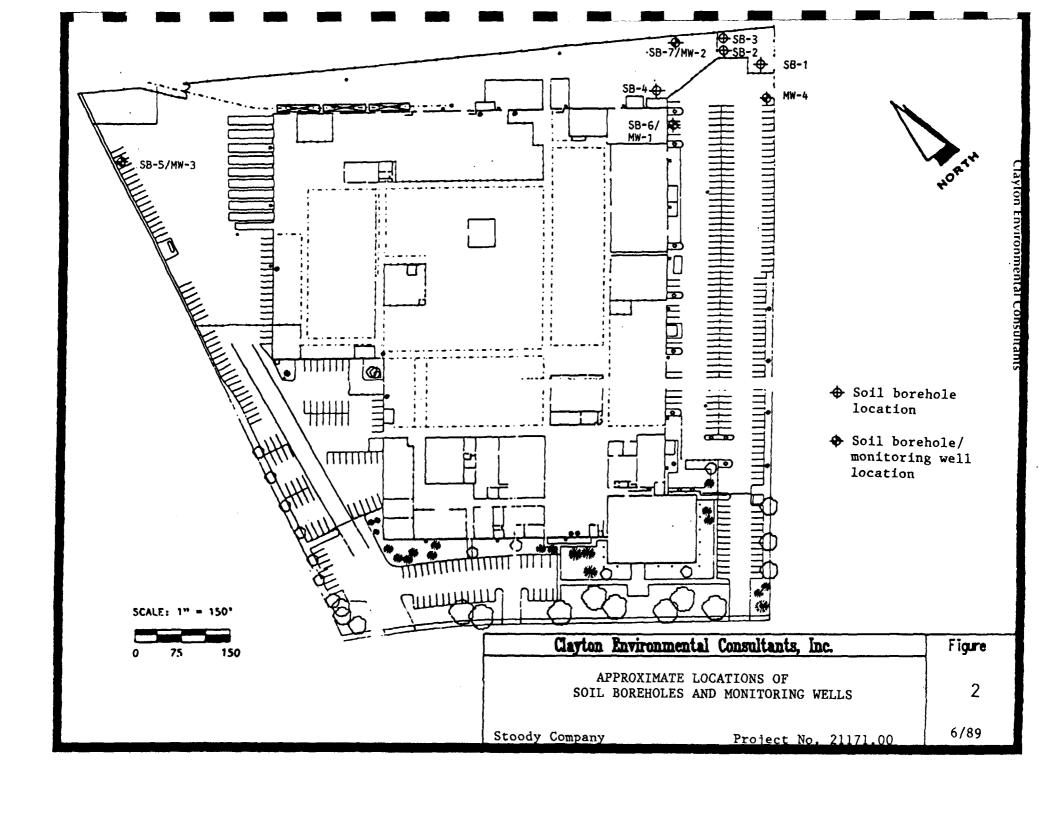
David H. Randell, R.G.

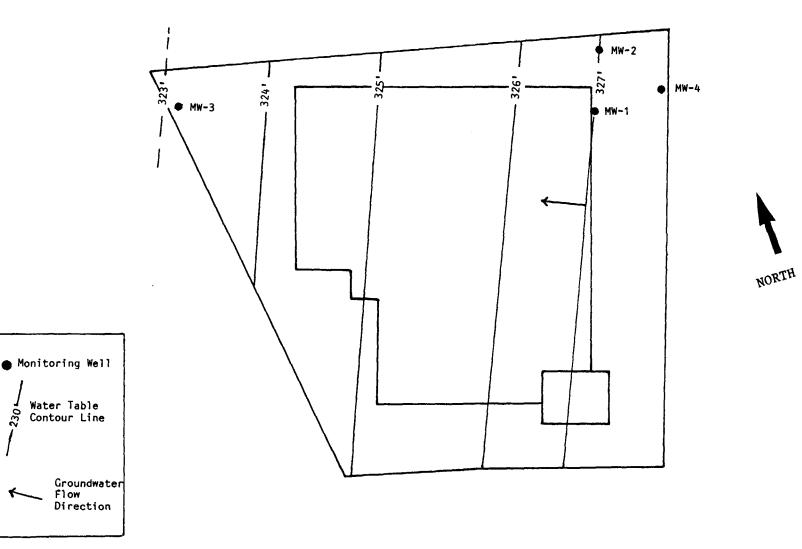
Registered Geologist No. 3977

Supervisor, Environmental Engineering

Southern California Operations

June 22, 1989





0	165	feet

Scale: 1'' = 165'

Water Table Contour Line

	Clayton Environm	ental Consultants, Inc.	Figure
		ER TABLE CONTOURS LOW DIRECTION	3
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TABLE 1
GROUNDWATER MONITORING WELL DATA

Monitoring Well	MW-1	MW-2	MW-3	MW-4
California Coordinates, Northerly	4 115 307.68	4 115 400.79	4 115 618.57	4 115 298.41
California Coordinates, Easterly	4 304 954.04	4 305 006.99	4 304 433.62	4 305 083.28
Elevation of top of well casing (MSL)	352.18	351.12	349.34	353.55
Total depth of well	45 feet	45 feet	45 feet	44.92 feet
Date of measurement	2/2/89	2/2/89	2/2/89	3/28/89
Depth to water from top of casing	25.14 feet	24.11 feet	26.32 feet	26.30
Elevation of water (MSL)	327.04 feet	327.01 feet	323.02	327.25
Date of measurment	6/16/89	6/16/89	6/16/89	6/16/89
Depth to water from top of casing	27.15	25.22	27.40	26.95
Elevation of water (MSL)	325.03	325.90	321.94	326.94

TABLE 2

COMPOUNDS DETECTED IN SOIL SAMPLES

Sample 1.D. Compound and Concentration (ug/kg or ppb) Guidance Cleanup (rug/kg or ppb) Concentration (rug/kg or ppb) Concentration (rug/kg or ppb) Concentration (rug/kg or ppb) Concentration (rug/kg or ppm) Personance (rug/kg or ppm) Concentration (rug/kg or ppm) Concentr	Carbon Disulfide Acetone Ace					
Carbon Disulfide 7 Acetone 30 Acetone 34 Acetone 37 Methylene Chloride 52 Acetone 48	Carbon Disulfide 7 Acetone 30 Acetone 34 Acetone 37 Methylene Chloride 45 Acetone 48	Sample 1.D.	Detected Compound of Compound of Compound	and Concentration Concentration (ug/kg or ppb)	Guidance Cleanup (mg/kg or ppm)	Designated Level to protect groundwater in a solid (ug/kg or nnh)
Acetone 34 * Acetone 37 * Acetone 45 * Methylene Chloride 52 * Acetone 48 *	Acetone 30 * Acetone 34 * Acetone 45 * Methylene Chloride 52 * Acetone 48 *	SB-6, 25	Carbon Disulfide	7	•	
Acetone 34 Acetone 37 Acetone 45 Methylene Chloride 52 Acetone 48	Acetone 34 Acetone 37 Acetone 45 Methylene Chloride 52 Acetone 48	MW-4, 5'	Acetone	30	•	*
Acetone 45 Methylene Chloride 52 Acetone 48	Acetone 45 Methylene Chloride 52 Acetone 48	MW-4, 10'	Acetone	34		*
Acetone 45 * Methylene Chloride 52 * Acetone 48 *	Acetone 45 * Methylene Chloride 52 * Acetone 48 *	MW-4, 15'	Acetone		•	*
Methylene Chloride 52 * Acetone 48	Methylene Chloride 52 ** Acetone 48	MW-4, 20	Acetone	3/	*	*
Acetone 48	Acetone 52 **	MW-4, 20'	Methylone Chlesis	45	•	•
		MW-4, 25'	Acetone	52	*	190
				8 2	•	•

* No level listed ug/kg - microgram per kilogram generally equivalent to parts-per-billion (ppb) mg/kg - milligram per kilogram generally equivalent to parts-per-million (ppm)

TABLE 3
COMPOUNDS DETECTED IN GROUNDWATER SAMPLES

mple I.D.	Compound	Concentration (ug/l)	State Action Level (pp
MW-1	1,1-dichloroethene	31	6
	Trichloroethene	130	5
	Tetrachloroethene	190	4
	Toluene	3	100
	Freon 113	10	18,000
MW-2	1,1-dichloroethene	61	6
	Trichloroethene	130	5
	Benzene	31	.7
	Tetrachloroethene	160	4
	Toluene	39	100
	Chlorobenzene	39	30
	Freon 113	8	18,000
MW-3	Trichloroethene	25	5
	Tetrachloroethene	64	4
MW-4	1,1-dichloroethene	11	6
	Trichloroethene	44	5
	Tetrachloroethene	55	4
	Freon 113	3	18,000

ug/l - microgram per liter ppb - parts per billion

Appendix A

APPENDIX A CRWQCB APPROVAL

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD— LOS ANGELES REGION

107 SOUTH BROADWAY, SUITE 4027 LOS ANGELES, CALIFORNIA 90012-4596 (213) 620-4460

RECEIVEL JAN 15 1989



January 11, 1989

Mr. Hal Kahlen STOODY/STOODY DELORO SATELLITE, INC. 16425 Gale Avenue City of Industry, CA 91745

WORK PLAN APPROVAL (FILE NO. AB105.263)

Board staff is in receipt of your supplementary work plan provisions, as prepared by Clayton Environmental Consultants. Review of the work plan with provisions indicates that Board minimum and site specific requirements have been met. Therefore, approval is granted. Please contact Board staff at least one week prior to implementation of the work plan. Four copies of the assessment report must be submitted to Board staff. If there are any further questions, you may contact Dainis Kleinbergs at (213) 620-5982.

ROY R. SAKAIDA

Senior Water Resource Control Engineer

RRS:dk

cc: David Randell, Clayton Environmental Consultants Ken Vernon, Clayton Environmental Consultants

Appendix B

APPENDIX B BOREHOLE LOGS

CLAYTON REVVIRONMENTAL" CONSULTANTS, INC. PROJECT NO. 21171.00 DATE 3/6/89 BORING NO. CLIENT Stoody Company
LOCATION 16425 Gale Avenue, Industry, California MW-4 LOG OF Sheet 1 LOGGED BY R. Vernon EXPLORATORY BORING of Drilling method: Continuous-flight, hollow-stem Field Location of Boring: South of barrel storage area near east property line. augers. Casing Installation Data: 44' of 4-inch dia. Ground Elev.: ____ Datum: schedule 40 PVC; 14.92 of blank and 30 feet of 0.01 screen Hole Dia. Soil Litho-Water Level 26 feet Drilling Graphic E A Group Rate PID P М Symbol Symbol Time PT/MIN AVO T p (uscs) Date 3/6/89 н L E DESCRIPTION 0-3* Asphalt AU ND SS SM SILTY SAND: Brown (5/3), 10-15% silt, finegrained, poorly graded, moderately firm, moderate plasticity, dominantly quartz, damp, odorless. 5' SS ND ML SILT: Brown (5/3), very firm, moderate plasticity, damp, odorless. 10' SS SW GRAVELY SAND: Light brown (6/4), 15-20% pebble ND gravel (dominantly quartz and feldspar), medium to coarse grained, moderately well graded, subangular, moderately loose, dominantly quartz, damp, odorless. 15' SS SW GRAVELY SAND: Light brown (6/4), 15-20% pebble gravel, coarse to medium grained, moderately well graded, subangular to subrounded, loose, dominantly quartz, damp, odorless. 20' SW GRAVELY SAND: Light brown (6/4), 20-25% pebble ND gravel, medium to fine-grained, moderately well graded, subrounded, loose, dominantly quartz, moist, odorless. ND 25' SS SP GRAVELY SAND: Light brown (6/4), 15-20% pebble gravel, fine-grained, poorly graded, subrounded, loose, dominantly quartz, wet odorless. 26-46* AIJ GRAVELY SAND: Brown (6/4), 10-15% pebble gravel, SP fine- to medium-grained (dominantly fine), poorly graded, subrounded, loose, dominantly quartz, wet, odorless.

LATTON ENVI	ROSSETAL											
onsultants,			PRO	JECT NO.	21171.00	D <i>i</i>	TE 3/6/6	39		BOR I	NG NO.	
LOG OF LOCATION 16					ody Company	y M					W-4	
	EXPLORATOR:		LOC	GED BY K	. Vernon	Venue, Industry, California Shee DRILLER H-F of					t 2 2	
	2001200		1 200	<u> </u>		DRIBB	<u> </u>		==			
Field Location of Boring: South of barrel stora area near east property line.						Drilling method	: Continu	ous-fligh	nt, ho	llow	-stem	
area nea	r east proj	perty lin				augers. Casing Installation Data: 44' of 4-inch diameter						
Ground El				Casing Installation Data: 44' of 4-inch diameter schedule 40 PVC; 14.92 of blank and 30 feet of								
Ground Elev.: Datum:						0.01-inch scree	n Hol		11"			
D S Soil Litho-				Water Level	26 feet							
			A	Group	Graphic	Mater rever	26 Teet					
Rate	Rate PID P			Symbol	Symbol	Time						
FT/MIN	OAY	T	P	(uscs)								
	H L E					Date	3/6/89				·	
						DESCRIPTION						
					Boring terminated at 46 feet							
		-				Boring terminated at 46 feet.						
				* A wooden plug was placed in the lead auger								
				after groundwa	ter was e	ncounter	ed. T	his	was			
						done to preven	t the hea	ving of s	oils	into	the	
					augers.							
					The description	of soils	encounte	ered b	elow	the		
					'	groundwater ta	ble is ba	sed on so	oil cu	ttin	gs	
						returned durin	g drillir	ng.				
						AU - auger ret	urns					
		 				SS - split spo						
		∤				ND - not detected using a Photovac TM PID meter						
		} +				with a detection range of 0 to 2,000 ppm.						
					Color codes taken from the Munsell Soil Color Chart.							
					Chart.							
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CLAYTON ENVIRONMENTAL CONSULTANTS, INC. PROJECT NO. 21171.00 DATE 7/21/88 & 1/23/89 BORING NO. CLIENT Stoody Company
LOCATION 16425 Gale Avenue, Industry, California SB-5 LOG OF Sheet 1 LOGGED BY K. Vernon EXPLORATORY BORING DRILLER H-P of Field Location of Boring: Northwest of main building Drilling method: Continuous-flight, hollow-stem south of drain in general storage area. augers. Casing Installation Data: See below. Ground Elev.: ____ Datum: Hole Dia. s Soil Litho-Water Level D No water encountered on 7/21/89 Drilling E Α Group Graphic PID ₽ M Symbol Symbol Rate Time Water encountered at 26 feet on FT/MIN OVA T P (uscs) H L Date 1/23/89 E DESCRIPTION 0-3" AU Asphalt SS SM SILTY SAND: Brown (5/3), 25-30% silt, finegrained, poorly graded, moderately firm, moderate plasticity, dominantly quartz sand, damp, odorless. 5 ML ND SS SILT: Brown (5/3), fine-grained, very firm, moderate plasticity, damp, odorless. ND SS SM SILTY SAND: Brown (5/3), 10-15% silt, fine to medium-grained, moderately well graded, subangular, firm, dominantly quartz sand, damp, odorless. ND 10 SS SW GRAVELY SAND: Light brown (6/4), 15-20% pebble to cobble gravel (dominantly quartz and feldspar), medium to coarse-grained, moderately well graded, subangular, moderately loose, dominantly quartz and feldspar, damp, odorless. ND 15' SS SW GRAVELY SAND: Light brown (6/4), 15-20% pebble to cobble gravel, medium to coarse-grained, moderately well graded, subangular, loose, dominantly quartz and feldspar, damp, odorless. 20' SS SW GRAVELY SAND: Light brown (6/4), 20-25% pebble gravel, fine to medium grained, moderately well graded, subangular to subrounded, loose, dominantly quartz and feldspar, damp, odorless. GRAVELY SAND: Light brown (6/4), 15-20% pebble 251 SS SP gravel, fine- to medium-grained (dominantly fine) poorly graded, subangular to subrounded, loose,

dominantly quartz, very moist, odorless.

LATTON ENVIRONMENTAL CONSULTANTS, INC. PROJECT NO. 21171.00 CLIENT Stoody Compan LOG OF LOCATION 16425 Gale A EXPLORATORY BORING LOGGED BY K, Vernon						enue, Industry,		SB-5 Sheet 2	
		Boring:	Northwe	est of main	n building,	augers.			
Ground El	lev.:	Datum	:			casing Install	ation Data: See below.		
							Hole Dia. 11"		
		ַם	s	Soil	Litho-	Water Level	No water encountered	on 7/21/89	
Drilling Rate	PID	E	A M	Group Symbol	Graphic Symbol	Time	Water encountered at	26 feet on	
FT/MIN	OVA	T H	P L	(uscs)		Date	1/23/89		
		1 1	E			!	DESCRIPTION		
		26-46*	AU	SP		GRAVELY SAND:	Brown (6/4), 10-15% pe	bble gravel,	
		1				fine-grained,	poorly graded, subroun	ded, loose,	
]]				dominantly qu	artz, wet, odorless.		
		'							
]]				* A Wooden pl	ug was placed in the le	ad auger	
]]				after groundw	ater was encountered.	This was	
]]				done to preve	nt the heaving of soils	into the	
		1 1				augers. The	description of soils en	countered	
]]				below the gro	undwater table is based	on soil	
-		1 1				cuttings retu	rned during drilling.		
		4 4				Boring termina	ted at 10 feet below gr	ound	
		-				surface on 7/	21/88. Boring continue	d on 1/23/89	
	ļ	4 4			1	for groundwat	er monitoring well inst	allation.	
		-		}		AU - auger ret	urns		
		4 4				SS - split-spo	on sampler		
		4 }		ļ		ND - not detec	ted using a Photovac TM	PID meter	
]]		}]	with a detect	ion range of 0 to 2,000	ppm.	
] []		Color codes ta	ken from the Munsell So	il Color	
						Chart.			
] [}	Casing Install	ation Data: No casing i	nstalled	
] [on 7/21/89.	Well installed on 1/23/	89: 4-inch	
		7 7				diameter sche	dule 40 PVC; 15 feet bl	ank casing	
		7 Ì]		and 30 feet o	f 0.01-inch screen.		
		7 7		}	1				
		7		1				·	
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		┥		1	1				
	 			1				·	
	-	-		1					
	 			1					
		4 1		1					

CLATTON MIV							· · · · · · · · · · · · · · · · · · ·			
Consultants,	, INC.			OJECT NO. IENT Sto	21171.00 ody Company	D)	ATB <u>1/23/</u>	/89	B0	ORING NO. SB-6
	LOG OF LOCATION 16425 Gale A EXPLORATORY BORING LOGGED BY K. Verbon				425 Gale Av	enue, Industry, (<u> </u>		neet 1
						DRILLI				
	cation of B			theast cor	ner of	Drilling method augers.	d: Continu	ous-flig	ht, holl	low-stem_
							ation Data			
Ground at	Ground Elev.: Datum:						VC; 15 fee en Hol	e Dia.		SU Teet
		р	s	Soil	Litho-	Water Level	25 feet			
Drilling	ntn	E P	λ	Group	Graphic	Time		~	 	
Rate PT/MIN	OVA	T	M P	Symbol (uscs)	Symbol				 	
		н	L B			Date	1/23/89		<u> </u>	
			<u> </u>				DESCRIPTI	ON		
		0-3*	AU			Asphalt				
	ND	1'	SS	SM	}	SILTY SAND: B	rown (5/3)	, 20-25%	silt,	ine-
						grained, poor	ly graded,	moderat	ely firm	n, mod-
		1		1		erate plastic	ity, domin	antly qu	artz, da	amp,
		1 7		1		odorless.	·			·
	NID	5,	ss	MIL		SILT: Brown (5/3), very	firm, m	oderate	plasti-
		1 7		1		city, damp, oo	dorless.			
				1	ł					
				1	İ					
 		1								
	ND	10.	ss	sw		CDAUDI V CAND.	Timba bu	16 (4)	16-206	
	RD	1 10	- 55	3"	}	GRAVELY SAND: to cobble grav			~	
	\	1 -	}			medium to coan				
		1		†	}	subangular, mo				
		1 7		1		and feldspar,				
	ND	15'	ss	sw		GRAVELY SAND:	Light bro	wn (6/4)	, 15-20	pebble
		1 -		1		to cobble grav	vel, mediu	m- to co	arse-gra	ined,
]		1		moderately we	ll graded,	subangu	lar, loc	ose,
		7 -		1		dominantly qua	artz and f	eldspar,	damp,	odorless.
	ND	20.	SS	SW		GRAVELY SAND:	Light bro	wn (6/4)	, 20-25	pebble
]]		gravel, fine-	to medium	grained	, modera	tely well
] -]		well graded,	subangular	to subr	oun ded ,	loose,
						dominantly qua	artz and f	eldspar,	damp,	dorless.
		1 -]						
	ND	25'	ss	SP		GRAVELY SAND:	Light bro	own (6/4)	, 10-15	pebble
] -]		gravel, fine-	grained, p	oorly gr	aded, s	ubrounded,
		7			}	loose, domina	ntly quart	2, wet,	odorles	
		26-46*	AU			GRAVELY SAND:	Brown (6,	/ 4) , 10-1	5% pebb	le gravel,
]]		fine- to medi	um-grained	domina)	ntly fi	ne), poorly
] -]		graded, subro	unded, loc	ose, domi	nantly (quartz,
		7]		wet, odorless				

LATTON EDIVI ONISULTANTS	, INC.	G OF F BORING	CL	ENT Sto		DATE 1/23/89 Senue, Industry, California DRILLER H-F DRILLER Control
building	cation of Bo	lanter cu	ırb s .	theast cor	Drilling method: <u>Continuous-flight</u> , <u>hollow-stem augers</u> . Casing Installation Data: <u>45 feet of 4" diameter</u>	
Ground El	lev.:	Datum:	'			Schedule 40 PVC; 15 feet of blank and 30 feet of 0.01 screen Hole Dia. 11
		D	s	Soil	Litho-	Water Level 25 feet
Drilling Rate FT/MIN	PID	P T	A M P	Group Symbol (uscs)	Graphic Symbol	Time
,		Н	L	(0000)		Date 1/23/89
						DESCRIPTION
						Boring terminated at 46 feet bgs.
						* A wooden plug was placed in the lead auger
						after groundwater was encountered. This was
						done to prevent the heaving of soils into the
· · · · · · · · · · · · · · · · · · ·						augers. The description of soils encountered
					}	below the groundwater table is based on soil
					}	cuttings returned during drilling.
		-				AU - auger return
		1 1				SS - split spoon sampler
		1 +			l	ND - not detected using a Photovac TM PID meter
						with a detection range of 0 to 2,000 parts per
		}			ļ	million.
		}				Color codes taken from the Munsell Soil Color
						Chart.
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CLAYTON ENVIRONMENTAL PROJECT NO. 21171.00 CONSULTANTS, INC. _ DATE <u>1/23/89</u> BORING NO. CLIENT Stoody Company
LOCATION 16425 Gale Avenue, Industry, California
LOGGED BY K. Vernon DRILLER H-F SB-7 LOG OF Sheet 1 EXPLORATORY BORING of Drilling method: Continuous-flight, hollow-stem Field Location of Boring: NE of main building near north property line augers. Casing Installation Data: 45 feet of 4" diameter ____ Datum: Ground Elev.: ___ Schedule 40 PVC; 15 feet of blank and 30 feet Hole Dia. of 0.01" screen Soil Litho-24 feet D Water Level Drilling B A Group Graphic PID ₽ M Symbol Symbol Rate Time FT/MIN T P OVA (uscs) н L Date 1/23/89 E DESCRIPTION 0-3" λU Asphalt SM SILTY SAND: Brown (5/3), 15-20% silt, finegrained, poorly graded, moderately firm, moderate plasticity, dominantly quartz, damp, 5' SS ML SILT: Brown (5/3), very firm, moderate plasticity, damp, odorless. 10' GRAVELLY SAND: Light brown (6/4), 15-20% pebble SS SW gravel (dominantly quartz and feldspar), medium to coarse grained, moderately well graded, subangular, moderately loose, dominantly quartz and feldspar, damp, odorless. 15' SS GRAVELLY SAND: Light brown (6/4), 20-25% pebble ND SW to cobble gravel, coarse to medium grained, moderately well graded, subangular, loose, dominantly quartz and feldspar, damp, odorless. 20' GRAVELY SAND: Light brown (6/4), 20-25% pebble SW to cobble gravel, fine-to medium-grained, moderately well graded, subrounded, loose, dominantly quartz and feldspar, damp, odorless. GRAVELY SAND: Light brown (6/4), 10-15% pebble 25' SP ND SS gravel, fine- to medium-grained (dominantly fine) poorly graded, subrounded, loose, dominantly quartz, wet, odorless. 26-46' AII# SP GRAVELY SAND: Brown (6/4), 10-15% pebble gravel, fine to medium-grained (dominantly fine), poorly graded, subrounded, loose, dominantly quarts,

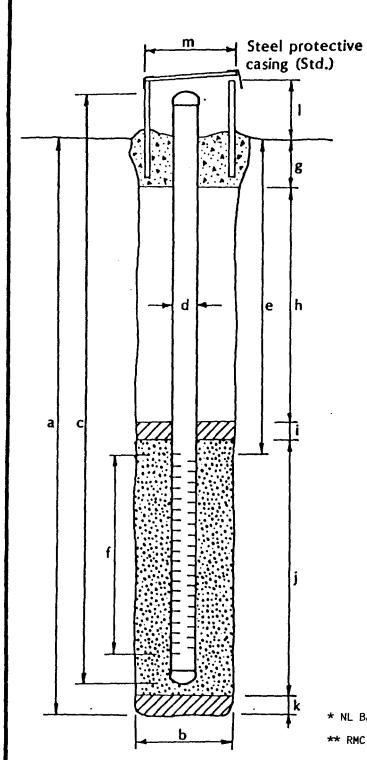
LATTON RHVIRONMENTAL											
onsultants,	IMC.				21171.00 ody Company		ATE <u>1/23/</u>	/89			NG NO. B-7
LOG OF						anue, Industry, California					t 2
	EXPLORATOR	BORING	roc	GED BY K.	. Vernon	DRILLE				of	2
Piold too	ation of Bo	ringe)	NR of a	nain buildi	l na	Drilling method	la Continu				
	th property		NE OL I	MAIN DUILU	ing	augers.	ii <u>contin</u>	ions-111di	nt, no	TIOW	-scem
						Casing Installa	tion Data	1: 45 feet	of 4	" di	ameter
Ground El	ev.:	Datum:	: —		Schedule 40 PV of 0.01" scree	/C; 15 fee	et of blance Dia.	nk and	30	feet	
		г						- DIG.	r	- -	
		D	s	Soil	Litho-	Water Level	24 feet			l	
Drilling Rate	PID	E P	A H	Group Symbol	Graphic Symbol	Time					
PT/MIN	OVA	T	P	(uscs)	Oyanoo1	7.1116					
		H	L			Date	1/23/89				
			B				DESCRIPTI	ON			
						wet, odorless.					
	!	1				Boring terminat	ed at 46	feet bgs			
		} }								·····	
					ļ	* A wooden plug	was place	ed in the	lead	aug	er
						after groundwa	ter was e	ncounter	ed. I	his	was done
				i		to prevent the	heaving	of soils	into	the	augers.
						The description	on of soil	s encount	tered	belo	w the
						groundwater ta	ble is ba	sed on so	oil cu	ttin	gs
						returned durin	ng drillin	ıg.			
						AU - auger retu	irn				
						SS - split spoo	 -				
						ND - not detect					
						with a detecti	on range	of 0 to	2,000	part	s per
						million.					
		∤				Color codes tak	en from t	he Munse:	ll Soi	1 Co	lor
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Appendix C

APPENDIX C WELL COMPLETION DIAGRAMS

PROJECT NUMBER.	21171.00
PROJECT NAME	Stoody Company
COUNTY Los Ange	les
WELL PERMIT NO.	

BORING / WELL NO. MW-1
TOP OF CASING ELEV. 352.18 feet
CROUND SURFACE ELEV. DATUM MSL



EXPLORATORY BORING

a.	Total depth		46	_ft.
ь.	Diameter		11	_in.
	Drilling method	Hollow-stemmed	augers	

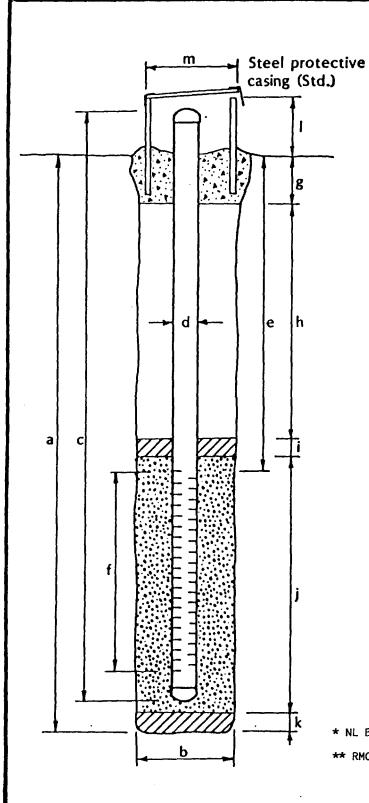
W	ELL CONSTRUCTION					
c.	Casing length	45	_ft.			
	Material Schedule 40 PVC					
d.	Diameter	4	in.			
e.	Depth to top perforations	15	_ft.			
f.	Perforated length	30	_ft.			
	Perforated interval from 15	_to <u>45</u>	_ft.			
	Perforation type_screen					
	Perforation size 0.01"					
g.	Surface seal	1	_ft.			
-	Seal material Concrete with a cement					
h.	outer apron. Backfill	9	ft.			
	Backfill material cement/granular bentonite*					
i.	Seal	3	_ft.			
	Seal material "Peltonite" Wyom	ing bento	<u>onite</u>			
j.	Gravel pack	33	ft.			
	Pack material #2/12 Monterey Sa	and**				
k.	Bottom seal	NA	_ft.			
	Seal material	NA				
i.	Casing height	0	_ft.			
m.	Protective casing diameter	13	_in.			

* NL Baroid "Benseal" granular bentonite

** RMC Lonestar Lapis Luster #2/12 Monterey sand.

PROJECT NUMBER.	21171.00
PROJECT NAME	Stoody Company
COUNTYLo	s Angeles
WELL PERMIT NO.	

BORING / WELL NO. MW-2 TOP OF CASING ELEV. 351.12 feet GROUND SURFACE ELEV. _---DATUM __



EXPLORATORY BORING

a.	Total depth	46	ft.
b.	Diameter	11	in.
	Drilling method Hollow-stemmed	augers	

<u>W</u>	ELL CONSTRUCTION		
c.	Casing length	45	.ft.
	Material Schedule 40 PVC		
d.	Diameter	4	in.
e.	Depth to top perforations	15	.ft.
f.	Perforated length	30	.ft.
	Perforated interval from 15	to <u>45</u>	ft.
	Perforation type_screen	 	
	Perforation size 0.01"		
g.	Surface seal	1	.ft.
	Seal material Concrete with a c	ement	
h.	Backfill outer apron.	8.5	.ft.
	Backfill material Cement/Granular	bentoni	:e*
i.	Seal	3	ſt.
	Seal material "Peltonite" Wyomir	g benton	ite
j.	Gravel pack	332	.ft.
	Pack material #2/12 Monterey	sand	
k.	Bottom seal	NA	.ft.
	Seal material NA		
I.	Casing height		ft.
m.	Protective casing diameter	12	in.
* NL Baroid	"Benseal" granular bentonite		

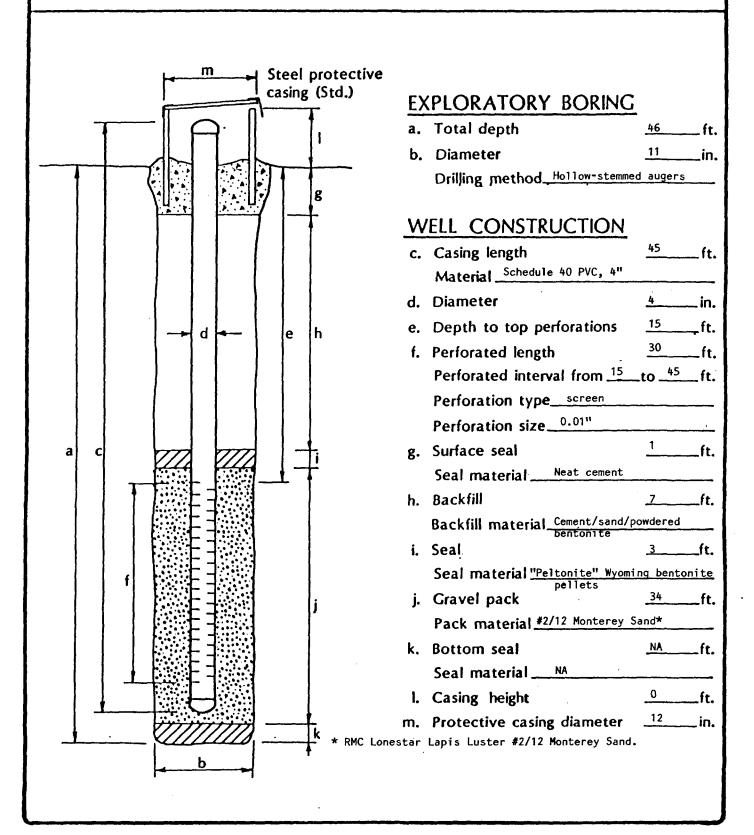
** RMC Lonestar Lapis Luster #2/12 Monterey sand.

PROJECT NUMBER21171.00				
PROJECT NAME Stoody Company				
COUNTY Los Angeles				
WELL PERMIT NO				

BORING / WELL NO. MW-3

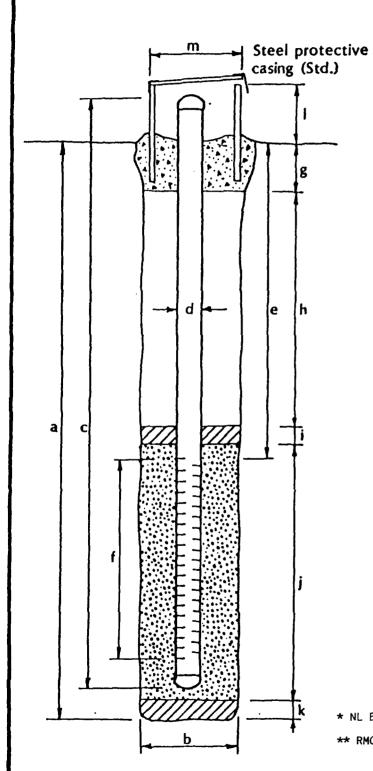
TOP OF CASING ELEV. 349.34 feet

GROUND SURFACE ELEV. -
DATUM MSL



PROJECT NUMBER21	171.00
PROJECT NAME	Stoody Company
COUNTY Los Angeles	
WELL PERMIT NO	••

BORING / WELL NO.	MW-4
TOP OF CASING ELEV.	
GROUND SURFACE ELEV.	
DATUMMSL	



EXPLORATORY BORING

a.	Total depth	_46	_ft.
b.	Diameter		_in.
	Drilling method_Hollow-stemmed	augers	

W	ELL CONSTRUCTION		
c.	Casing length	44.92	_ft.
	Material Schedule 40 PVC		
d.	Diameter	4	_in.
e.	Depth to top perforations	14.92	Ļft.
f.	Perforated length	30	_ft.
	Perforated interval from 15	to <u>45</u>	_ft.
	Perforation type Slotted		
	Perforation size 0.01"	· · · · · · · · · · · · · · · · · · ·	
g.	Surface seal	1	_ft.
	Seal material Concrete with a	ement ap	ron
h.	Backfill	6	_ft.
	Backfill material Cement/Granula	ar bentor	ni te*
i.	Seal	3	_ft.
	Seal material "Peltonite" Wyomin	ng bento	nie
j.	Gravel pack	35	_ft.
	Pack material #2/12 Monterey s.	and**	
k.	Bottom seal	NA	_ft.
	Seal material	NA	
I.	Casing height	0	_ft.
m.	Protective casing diameter	12	_in.
oid	"Benseal" granular bentonite		

** RMC Lonestar Lapis Luster #2/12 Monterey sand.

APPENDIX D WATER SAMPLING FIELD SURVEY FORM

CLAYTON ENVIRONMENTAL CONSULTANTS, INC. WATER SAMPLING FIELD SURVEY FORM

Job #21171.00 Site: Stoody Date: 2/2/89

Well # MW-1 Sampling Team: Ken Vernon

Sampling Method: Hand bailing with teflon bailer

Field Conditions: Rainy and cold.

Describe equipment D-Con before sampling this well: TSP and tap water wash and tap water double rinse.

Total Depth Depth to Water of Well: 45 feet Time: 06.45 Water Before Pumping: 25.14 feet

Diameter Purge Volume to 2-inch 4-inch Volume **Factor** Height of Purge Water .16 = 12.93 =38.7 gallons Column: 19.86 feet gal

Depth Purging From: 27 feet Time Purging Begins: 06:50

Notes on Initial Discharge:

Time	Volume Purged	рН	Conductivity	<u>T</u>	Notes
07:00	5 gal.	6.25	1005us	20°C	Light brown, moderate turbidity, odorless
07:20	5 gal.	6.20	1050us	20°C	Light brown, moderate turbidity, odorless
07:50	5 gal.	6.20	1040us	20°C	Light brown, moderate turbidity, odorless
08:25	5 gal.	6.28	1055us	20°C	Light brown, moderate turbidity, odorless
08:40	5 gal.	6.30	1060us	20°C	Light brown, moderate turbidity, odorless
09:10	5 gal.	6.20	1050us	20°C	Light brown, moderate turbidity, odorless
09:25	5 gal.	6.20	1049us	20°C	Light brown, moderate turbidity, odorless
09:50	5 gal.	6.25	1040us	20°C	Light brown, moderate turbidity, odorless

WATER SAMPLING FIELD SURVEY FORM (CONTINUED)

Time Field Parameter Measurement Begins: 10:00

	Rep #1	_Rep #2_	Rep #3	Rep #4
рН	6.20	6.25	6.20	
Conductivity	1050us	1045us	1048us	
T°C	20°C	20°C	20°C	

Pre-Sample Collection Gallons Purged: 40 gallons

Time Sample Collection Begins: 10:10

Time Sample Collection Ends: 10:15

Total Gailons Purged: 41

Comments:

WATER SAMPLING FIELD SURVEY FORM

Job # 21171.00

Site: Stoody Company

Date: 3/28/89

Well # MW-4

Sampling Team: Ken Vernon

Sampling Method: Hand bailing with teflon bailer

Field Conditions: Cloudy and cool.

Describe equipment D-Con before sampling this well: TSP and tap water wash followed by a double tap water rinse.

Total Depth

of Well: 53.92

feet

Time: 09:15

Depth to Water

Water Before Pumping: 26.30 feet

	<u>Diam</u>	eter		Purge	Volume to
Height of Water	2-inch	4-inch <u>Volume</u>		<u>Factor</u>	Purge
Column: 27.62 feet	* .16	.65 = 17.95 gal	•	3	= 53.86 gallons
Depth Purging From: 28	feet	Time Purging Begins:	09:20		

Notes on Initial Discharge: Medium brown, moderately high turbidity; suspended silt and fine sand, odorless.

<u>Time</u>	Volume Purged	<u>pH</u>	Conductivity	<u>T</u>	Notes
09:25	10 gal.	6.65	1095us	28.5°C	Medium brown, moderately high turbidity, odorless
09:50	20 gal.	6.70	1100us	28.5°C	Medium brown, moderately high turbidity, odorless.
10:35	30 gal.	6.71	1100us	28.5°C	Light brown, moderate turbidity, odorless
11:10	40 gal.	6.60	1085us	28.5°C	Light brown, moderate turbidity, odorless
11:45	50 gal.	6.56	1100us	29°C	Light brown, moderate turbidity, odorless
12:20	55 gal.	6.55	1200us	29°C	Light brown, low turbidity, odorless

WATER SAMPLING FIELD SURVEY FORM (CONTINUED)

Time Field Parameter Measurement Begins: 12:30

	Rep #1	<u>Rep #2</u>	Rep #3	_Rep #4
pН	6.56	5.50	6.52	
Conductivity	1210us	1200us	1208us	
T°C	29°C	29°C	29°C	

Pre-Sample Collection Gallons Purged: 55

Time Sample Collection Begins: 12:35

Time Sample Collection Ends: 12:42

Total Gallons Purged: 56

Comments:

WATER SAMPLING FIELD SURVEY FORM

Job # 21171.00

Site: Stoody

Date: 2/2/89

Well #MW-2

Sampling Team: Ken Vernon

Sampling Method: Hand bailing with teflon bailer

Field Conditions: Rainy and cold.

Describe equipment D-Con before sampling this well: TSP and tap water wash followed by a tap water double rinse.

Total Depth

of Well: 45

feet

Time: 10:20

feet

Depth to Water

Water Before Pumping: 24.11

Diameter Purge Volume to 2-inch 4-inch Volume Height of **Factor** Purge Water .16 .65 = 13.583 Column: 20.89 feet gal = 40.74 gal.

Depth Purging From: 26

26

Time Purging Begins: 10:20

Notes on Initial Discharge: Light brown, moderate turbidity, suspended silt and fine sand, odorless.

<u>Time</u>	Volume Purged	pН	Conductivity	<u>T</u>	Notes
10:25	5 gal.	6.40	1100us	20°C	Light brown, moderate turbidity, odorless
10:40	5 gal.	6.45	1100us	20°C	Light brown, moderate turbidity, odorless
10:55	5 gal.	6.40	1080us	20°C	Light brown, moderate turbidity, odorless
11:15	5 gal.	6.50	1085us	20°C	Light brown, moderate turbidity, odorless
11:30	5 gal.	6.52	1105us	20°C	Light brown, moderate turbidity, odorless
11:50	5 gal.	6.50	1110us	20°C	Light brown, low turbidity, odorless
12:15	5 gal.	6.55	1118us	20°C	Light brown, low turbidity, odorless
12:40	5 gal.	6.50	1120us	20°C	Light brown, low turbidity, odorless
13:10	5 gal.	6.45	1100us	20°C	Light brown, low turbidity, odorless

WATER SAMPLING FIELD SURVEY FORM (CONTINUED)

Time Field Parameter Measurement Begins: 13:20

	Rep #1	Rep #2	Rep #3	Rep #4
рН	6.48	6.50	6.45	
Conductivity	1110us	1105us	1112us	
T°C	20°C	20°C	20°C	

Pre-Sample Collection Gallons Purged: 45

Time Sample Collection Begins: 13:35

Time Sample Collection Ends: 13:50

Total Gallons Purged: 46

Comments:

CLAYTON ENVIRONMENTAL CONSULTANTS, INC. WATER SAMPLING FIELD SURVEY FORM

Job # 21171.00 Site: Stoody Date: 2/2/89

Well # MW-3 Sampling Team: Ken Vernon

Sampling Method: Hand bailing with teflon bailer

Field Conditions: Rainy and cold

Describe equipment D-Con before sampling this well: TSP and tap water rinse followed by a double tap water rinse.

Total Depth Depth to Water

of Well: 45 feet Time: 13:50 Water Before Pumping: 26.32 feet

<u>Diameter</u>							Purge	Volume to	
Height of Water				2-inch	4-inch	<u>Volume</u>		Factor	Purge
Column:	13.68	feet	*	.16	.65 = 12.14	gal	*	3 =	36.42

Depth Purging From: 28 feet Time Purging Begins: 14:00

Notes on Initial Discharge: Light brown, moderate turbidity; suspended silt and fine sand, odorless.

<u>Time</u>	Volume Purged	<u>pH</u>	Conductivity	<u>T</u>	<u>Notes</u>
14:15	5 gal.	6.50	1085us	20°C	Light brown, moderate turbidity, odorless
14:25	5 gal.	6.58	1090us	20°C	Light brown, moderate turbidity, odorless
14:35	5 gal.	6.76	1100us	20°C	Light brown, moderate turbidity, odorless
14:50	5 gal.	6.69	1095us	20°C	Light brown, moderate turbidity, odorless
15:05	5 gal.	6.58	1089us	20°C	Light brown, moderate turbidity, odorless
15:20	5 gal.	6.55	1100us	20°C	Light brown, low turbidity, odorless
15:40	5 gal.	6.50	1105us	20°C	Light brown, low turbidity, odorless
15:55	5 gal.	6.52	1110us	20°C	Light brown, moderate turbidity, odorless

WATER SAMPLING FIELD SURVEY FORM (CONTINUED)

Time Field Parameter Measurement Begins: 16:05

	Rep #1	Rep #2	Rep #3	Rep #4
pН	6.50	6.55	6.52	
Conductivity	1100us	1105us	1095us	
T°C	20°C	20°C	20°C	

Pre-Sample Collection Gallons Purged: 40

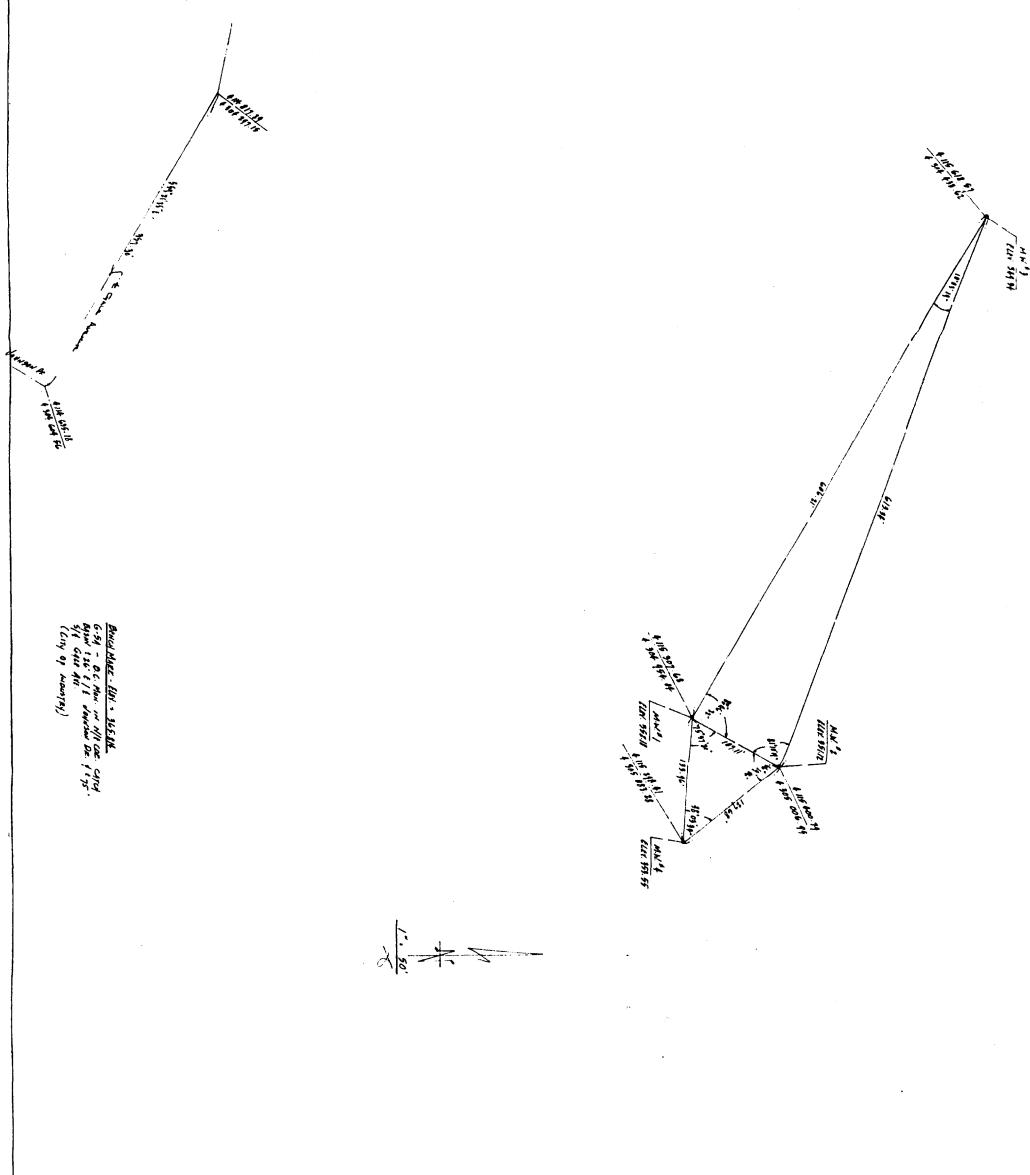
Time Sample Collection Begins: 16:10

Time Sample Collection Ends: 16:20

Total Gallons Purged: 41

Comments:

APPENDIX E WELL SURVEY DIAGRAM



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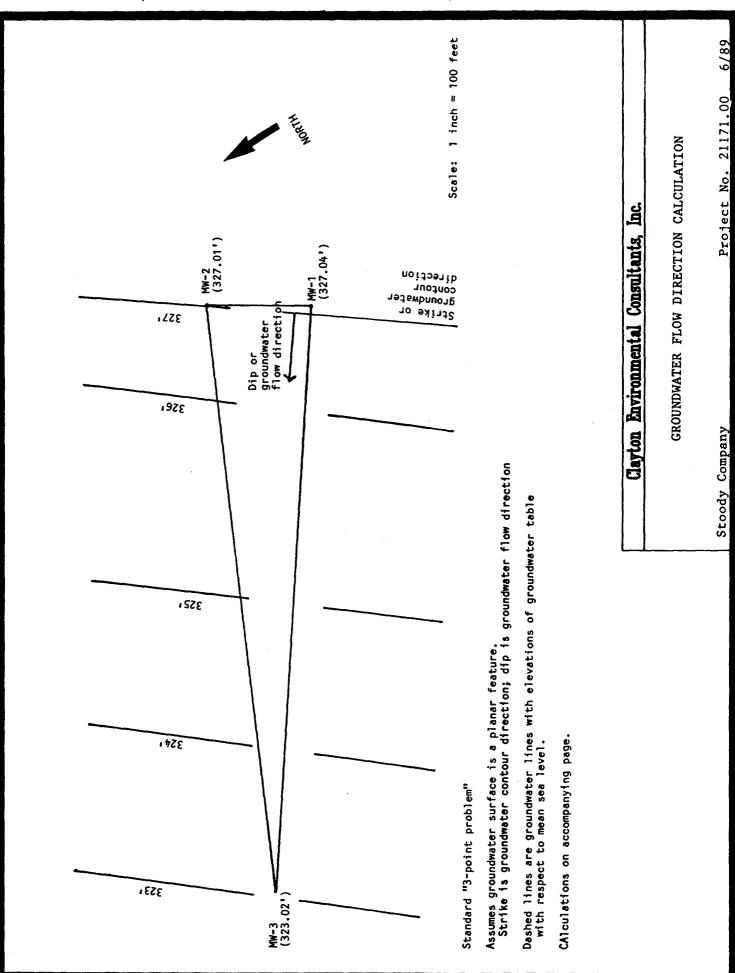
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Appendix F

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APPENDIX F GROUNDWATER FLOW DIRECTION CALCULATION



GREWDWATER FLOW DIRECTEN AND CONTUR CALCULATIONS

DISTANCE BETWEEN WELLS

- (1) mw-1 4- mw-2 (L&6 1); 107.11'
- (2) MW-1 + MW-3 (LEG 2); 606.21'
- (3) MW-2 4- MW-3 (LAG 3); 613.34'

CHANGE IN ELEVATION OF WATER TABLE

BETWEEN WELLS

- (1) mw-1 to mw-2; 6.03'
- (2) mw-1 to mw-s; 4.02'
- (3) mw-2 to mw-3, 3.99'

(1) FLOW DIRECTION CALCULATION:

:03 x 6.06 21" = 0.045" (DISTANCE FROM MW-1 to 327.01"

ELEVATION ALONG "LEG(Z)".

(21 326 CONTOUR CALCULATION:

1.01 x 6.1334 = 1.55"

1.04 × 6.0621° = 1.568"

(3) 325' CONTOUR CALCULATION:

2.01 3.99 Y 6.1834" = 3.089"

2.04 × 4.0621° = 3.076"

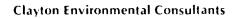
(4) 374 CONTOUR CALCULATION:

3.91 3.99 > 6.1334" = 4.63"

3.04 402 * 6.0621" = 4.58"

(5) 323' CUNTOUR CALCULATION: 4.01 x 6.1284" = 6.11"

4.04 . 6.0621" = 4.09"



APPENDIX G LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY

WEST COAST ANALYTICAL SERVICE, INC.

CLAYTON ENVIRONMENTAL CONSULTANTS
Mr. Ken Vernon

Job # 12126 March 21, 1989

LABORATORY REPORT

TABLE I

Parts Per Million (mq/Kq)

Sample I.D.	Total Petroleum Hydrocarbons
Stoody, MW-4,5' Stoody, MW-4,10' Stoody, MW-4,15' Stoody, MW-4,20' Stoody, MW-4,25' Detection Limit	ND ND ND ND ND
ND Not Detected	

....

ND-Not Detected

Date Analyzed: 3-9-89

Page 2 of 2



CLIENT: CLAYTON ENVIRONMENTAL SAMPLE: STOODY, MW-4,5'

WCAS JOB #: 12126

DATE RECEIVED: 03/08/89

DATE EXTRACTED: 03/15/89

DATE ANALYZED: 03/15/89

RUN NUMBER: 12126V1

SAMPLE AMOUNT: 1.0G

MATRIX: SOIL

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/KG (PPB)

CAS #	COMPOUND	CONCENTRATION	DET LIMIT
) opmove		
67-64-1	ACETONE	30.	30.
71-43-2	BENZENE	ND	5.
75-27-4	BROMODICHLOROMETHANE	ND	5.
75-25-2	BROMOFORM	ND	5.
74-83-9	BROMOMETHANE	ND	30.
78-93-3	2-BUTANONE (MEK)	ND	30.
75-15-0	CARBON DISULFIDE	ND	5.
56-23-5	CARBON TETRACHLORIDE	ND	5.
108-90-7	CHLOROBENZENE	ND	5.
75-00-3	CHLOROETHANE	ND	30.
110-75-8	2-CHLOROETHYLVINYLETHER	ND	50.
67-66-3	CHLOROFORM	ND	5.
74-87-3	CHLOROMETHANE	ND	30.
108-41-8	CHLOROTOLUENE	ND	5.
124-48-1	DIBROMOCHLOROMETHANE	ND	5.
95-50-1	1,2-DICHLOROBENZENE	ND	5.
541-73-1	1,3-DICHLOROBENZENE	ND	5.
106-46-7	1,4-DICHLOROBENZENE	ND	5.
75-34-3	1,1-DICHLOROETHANE	ND	5.
107-06-2	1,2-DICHLOROETHANE	ND	5.
75-35-4	1,1-DICHLOROETHYLENE	ND	5.
156-59-4	CIS-1,2-DICHLOROETHYLENE	ND	5.
156-60-5	TRANS-1,2-DICHLOROETHYLENE	ND	5.
78-87-5	1,2-DICHLOROPROPANE	ND	5.
10061-01-5	· · · · · · · · · · · · · · · · · · ·	ND	5.
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ND	5.
100-41-4	ETHYLBENZENE	ND	5.
106-93-4	ETHYLENE DIBROMIDE	ND	5.
76-13-1	FREON-TF	ND	5.
119-78-6	2-HEXANONE	ND	30.
75-09-2	METHYLENE CHLORIDE	ND	30.
108-10-1	4-METHYL-2-PENTANONE (MIBK)	ND	30.
100-42-5	STYRENE	ND	5.
79-34-5	1,1,2,2-TETRACHLOROETHANE	ND	5.
127-18-4	TETRACHLOROETHYLENE	ND	5.
109-99-9	TETRAHYDROFURAN	ND	30.
108-88-3	TOLUENE	ND	5.
71-55-6	1,1,1-TRICHLOROETHANE	ND	5.
79-00-5	1,1,2-TRICHLOROETHANE	ND	5.
79-01-6	TRICHLOROETHYLENE	ND ND	5. 5.
75-69-4	TRICHLOROFLUOROMETHANE	ИD	5.
108-05-4	VINYL ACETATE	ND ND	30.
75-01-4	VINYL CHLORIDE	ND	30. 30.
95-47-6	TOTAL XYLENES		
35-41-0	IAIUN VITHINNA	ND	5.

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TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT: CLAYTON ENVIRONMENTAL

SAMPLE: STOODY, MW-4,5'

WCAS JOB #: 12126

UNITS: UG/KG (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

VOA

CLIENT: CLAYTON ENVIRONMENTAL SAMPLE: STOODY, MW-4, 10.

WCAS JOB #: 12126

DATE RECEIVED: 03/08/89 RUN NUMBER: 12126V2
DATE EXTRACTED: 03/15/89 SAMPLE AMOUNT: 1.0G
DATE ANALYZED: 03/15/89 MATRIX: SOIL

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/KG (PPB)

CAS #	COMPOUND	CONCENTRATION	
			
67-64-1	ACETONE	34.	30.
71-43-2	BENZENE	ND	5.
75-27-4	BROMODICHLOROMETHANE	ND	5.
75-25-2	BROMOFORM	ND	5.
74-83-9	BROMOMETHANE	ND	30.
78-93-3	2-BUTANONE (MEK)	ND	30.
75-15-0	CARBON DISULFIDE	ND	5.
56-23-5	CARBON TETRACHLORIDE	ND	5.
108-90-7	CHLOROBENZENE	ND	5.
75-00-3	CHLOROETHANE	ND	30.
110-75-8	2-CHLOROETHYLVINYLETHER	ND	50.
67-66-3	CHLOROFORM	ND	5.
74-87-3	CHLOROMETHANE	ND	30.
108-41-8	CHLOROTOLUENE	ND	5.
124-48-1	DIBROMOCHLOROMETHANE	ND	5.
95-50-1	1,2-DICHLOROBENZENE	ND	5.
541-73-1	1,3-DICHLOROBENZENE	ND	5.
106-46-7	1,4-DICHLOROBENZENE	ND	5.
75-34-3	1,1-DICHLOROETHANE	ND	5.
107-06-2	1,2-DICHLOROETHANE	ND	5.
75-35-4	1,1-dichloroethylene	ND	5.
156-59-4	CIS-1,2-DICHLOROETHYLENE	ND	5.
156-60-5	TRANS-1,2-DICHLOROETHYLENE	ND	5.
78-87-5	1,2-dichloropropane	ND	5.
10061-01-5	•	ND	5.
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ND	5.
100-41-4	ETHYLBENZENE	ND	5.
106-93-4	ETHYLENE DIBROMIDE	ND	5.
76-13-1	FREON-TF	ND	5.
119-78-6	2-HEXANONE	ND	30.
75-09-2	METHYLENE CHLORIDE	ND	30.
108-10-1	4-METHYL-2-PENTANONE (MIBK)	ND	30.
100-42-5	STYRENE	ND	5.
79-34-5	1,1,2,2-TETRACHLOROETHANE	ИD	5.
127-18-4	TETRACHLOROETHYLENE	ND	5.
109-99-9	TETRAHYDROFURAN	ND	30.
108-88-3	TOLUENE	ND	5.
71-55-6	1,1,1-TRICHLOROETHANE	ND	5.
79-00-5	1,1,2-TRICHLOROETHANE	ND	5.
79-01-6	TRICHLOROETHYLENE	ND	5.
75-69-4	TRICHLOROFLUOROMETHANE	ND	5.
108-05-4	VINYL ACETATE	ND	30.
75-01-4	VINYL CHLORIDE	ND	30.
95-47-6	TOTAL XYLENES	ND	5.

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT: CLAYTON ENVIRONMENTAL

WCAS JOB #: 12126

SAMPLE: STOODY, MW-4, 10'

UNITS: UG/KG (PPB)

COMPOUND NAME

APPROXIMATE FRACTION CONCENTRATION

1 NONE FOUND

VOA

CLIENT: CLAYTON ENVIRONMENTAL

WCAS JOB #: 12126

SAMPLE: STOODY, MW-4, 15'

DATE RECEIVED: 03/08/89 DATE EXTRACTED: 03/15/89 DATE ANALYZED: 03/15/89 RUN NUMBER: 12126V3
SAMPLE AMOUNT: 1.0G
MATRIX: SOIL

VOLATILE ORGANICS (EPA 624/8240)

UNITS: UG/KG (PPB)

CAS #	COMPOUND	CONCENTRATION	DET LIMIT
			24234E282
67-64-1	ACETONE	37.	30.
71-43-2	BENZENE	ND	5.
75-27-4	BROMODICHLOROMETHANE	ND	5.
75-25-2	BROMOFORM	ND	5.
74-83-9	BROMOMETHANE	ND	30.
78-93-3	2-BUTANONE (MEK)	ND	30.
75-15-0	CARBON DISULFIDE	ND	5.
56-23-5	CARBON TETRACHLORIDE	ND	5.
108-90-7	CHLOROBENZENE	ND	5.
75-00-3	CHLOROETHANE	ND	30.
110-75-8	2-CHLOROETHYLVINYLETHER	ND	50.
67-66-3	CHLOROFORM	ND	5.
74-87-3	CHLOROMETHANE	ND	30.
108-41-8		ND	5.
124-48-1		ND	5.
95-50-1	1,2-DICHLOROBENZENE	ND	5.
541-73-1		ND	5.
106-46-7		ND	5.
75-34-3	1,1-DICHLOROETHANE 1,2-DICHLOROETHANE	ND	5.
107-06-2 75-35-4	1,1-DICHLOROETHYLENE	ND	5.
156-59- 4		ND	5.
156-60-5	TRANS-1,2-DICHLOROETHYLENE	ND	5.
78-87-5	1,2-DICHLOROPROPANE	ND	5.
10061-01-5		ND	5.
10061-02-6		ND	5.
100-41-4	ETHYLBENZENE	ND	5.
106-93-4		ND ND	5.
76-13-1	FREON-TF	ND	5. 5.
119-78-6	2-HEXANONE	ND	30 .
75-09-2	METHYLENE CHLORIDE	ND	30.
108-10-1	4-METHYL-2-PENTANONE (MIBK)	ND	30.
100-42-5		ND	5.
79-34-5	1,1,2,2-TETRACHLOROETHANE	ND	5.
127-18-4	TETRACHLOROETHYLENE	ND	5.
109-99-9	TETRAHYDROFURAN	ND	30.
108-88-3	TOLUENE	ND	5.
71-55-6	1,1,1-TRICHLOROETHANE	ND	5.
79-00-5	1,1,2-TRICHLOROETHANE	ND	5.
79-01-6	TRICHLOROETHYLENE	ND	5.
75-69-4	TRICHLOROFLUOROMETHANE	ND	5.
108-05-4	VINYL ACETATE	ND	30.
75-01-4	VINYL CHLORIDE	ND	30.
95-47-6	TOTAL XYLENES	ND	5.

CLIENT:

CLAYTON ENVIRONMENTAL

SAMPLE: STOODY, MW-4, 15'

WCAS JOB #: 12126

UNITS: UG/KG (PPB)

COMPOUND NAME

APPROXIMATE FRACTION CONCENTRATION

NONE FOUND

CLIENT: CLAYTON ENVIRONMENTAL SAMPLE: STOODY, MW-4, 20'

WCAS JOB #: 12126

DATE RECEIVED: 03/08/89 RUN NUMBER: 12126V4
DATE EXTRACTED: 03/15/89 SAMPLE AMOUNT: 1.0G
DATE ANALYZED: 03/15/89 MATRIX: SOIL

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/KG (PPB)

CAS #	COMPOUND	CONCENTRATION	DET LIMIT
E## ### ######			
67-64-1	ACETONE	45.	30.
71-43-2	BENZENE	ND ND	5.
75-27-4	BROMODICHLOROMETHANE	ND	5.
75-25-2	BROMOFORM	ND	
74-83-9	BROMOMETHANE		5.
78-93-3	2-BUTANONE (MEK)	ND	30.
75-15-0	CARBON DISULFIDE	ND	30.
		ND	5.
56-23-5	CARBON TETRACHLORIDE	ND	5.
108-90-7	CHLOROBENZENE	ND	5.
75-00-3	CHLOROETHANE	ND	30.
110-75-8	2-CHLOROETHYLVINYLETHER	ND	50.
67-66-3	CHLOROFORM	ND	5.
74-87-3	CHLOROMETHANE	ND	30.
108-41-8	CHLOROTOLUENE	ND	5.
124-48-1	DI BROMOCHLOROMETHANE	ND	5.
95-50-1	1,2-DICHLOROBENZENE	ND	5.
541-73-1	1,3-DICHLOROBENZENE	ND	5.
106-46-7	1,4-DICHLOROBENZENE	ND	5.
75-34-3	1,1-DICHLOROETHANE	ND	5.
107-06-2	1,2-DICHLOROETHANE	ND	5.
75-35-4	1,1-DICHLOROETHYLENE	ND	5.
156-59-4	CIS-1,2-DICHLOROETHYLENE	ND ND	5.
156-60-5	TRANS-1,2-DICHLOROETHYLENE	ND	5. 5.
78-87-5	1,2-DICHLOROPROPANE	ND ND	5. 5.
10061-01-5	CIS-1,3-DICHLOROPROPENE	ND	5. 5.
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ИD	
100-41-4	ETHYLBENZENE	ND ND	5.
106-93-4	ETHYLENE DIBROMIDE	ND ND	5.
76-13-1	FREON-TF		5.
119-78-6	2-HEXANONE	ND	5.
75-09-2	METHYLENE CHLORIDE	ND	30.
108-10-1		52.	30.
100-10-1	4-METHYL-2-PENTANONE (MIBK) STYRENE	ND	30.
		ND	5.
79-34-5	1,1,2,2-TETRACHLOROETHANE	ND	5.
127-18-4	TETRACHLOROETHYLENE	ND	5.
109-99-9	TETRAHYDROFURAN	ND	30.
108-88-3	TOLUENE	ND	5.
71-55-6	1,1,1-TRICHLOROETHANE	ND	5.
79-00-5	1,1,2-TRICHLOROETHANE	ND	5.
79-01-6	TRICHLOROETHYLENE	ND	5.
75-69-4	TRICHLOROFLUOROMETHANE	ND	5.
108-05-4	VINYL ACETATE	ND	30.
75-01-4	VINYL CHLORIDE	ND	30.
95-47-6	TOTAL XYLENES	ND	5.
		- -	

MG:R

CLIENT: CLAYTON ENVIRONMENTAL

SAMPLE: STOODY, MW-4, 20'

WCAS JOB #: 12126

UNITS: UG/KG (PPB)

COMPOUND NAME

APPROXIMATE FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: CLAYTON ENVIRONMENTAL SAMPLE: STOODY, MW-4, 25'

WCAS JOB #: 12126

DATE RECEIVED: 03/08/89 RUN NUMBER: 12126V5
DATE EXTRACTED: 03/15/89 SAMPLE AMOUNT: 1.0G
DATE ANALYZED: 03/15/89 MATRIX: SOIL

VOLATILE ORGANICS (EPA 624/8240) UNITS: UG/KG (PPB)

CAS #	COMPOUND	CONCENTRATION	DET LIMIT
			: # # # # # # # # # # # # # # # # # # #
67-64-1	ACETONE	48.	30.
71-43-2	BENZENE	ND	5.
75-27-4	BROMODICHLOROMETHANE	ND	5.
75-25-2	BROMOFORM	ND	5.
74-83-9	BROMOMETHANE	ND	30.
78-93-3	2-BUTANONE (MEK)	ND	30.
75-15-0	CARBON DISULFIDE	ND	5.
56-23-5	CARBON TETRACHLORIDE	ND	5.
108-90-7	CHLOROBENZENE	ND	5.
75-00-3	CHLOROETHANE	ND	30.
110-75-8	2-CHLOROETHYLVINYLETHER	ND	50.
67-66-3	CHLOROFORM	ND	5.
74-87-3	CHLOROMETHANE	ND	30.
108-41-8	CHLOROTOLUENE	ND	5.
124-48-1	DIBROMOCHLOROMETHANE	ND	5.
95-50-1	1,2-DICHLOROBENZENE	ND	5.
541-73-1	1,3-DICHLOROBENZENE	ND	5.
106-46-7	1,4-DICHLOROBENZENE	ND	5.
75-34-3	1,1-dichloroethane	ND	5.
107-06-2	1,2-DICHLOROETHANE	ND	5.
75-35-4	1,1-DICHLOROETHYLENE	ND	5.
156-59-4	CIS-1,2-DICHLOROETHYLENE	ND	5.
156-60-5	TRANS-1,2-DICHLOROETHYLENE	ND	5.
78-87-5	1,2-DICHLOROPROPANE	ND	5.
10061-01-5	•	ND	5.
10061-02-6	•	ND	5.
100-41-4	ETHYLBENZENE	ND	5.
106-93-4	ETHYLENE DIBROMIDE	ND	5.
76-13-1	FREON-TF	ND	5.
119-78-6	2-HEXANONE	ND	30.
75-09-2	METHYLENE CHLORIDE	ND	30.
108-10-1		ND	30.
100-42-5	STYRENE	ND	5.
79-34-5	1,1,2,2-TETRACHLOROETHANE	ND	5.
127-18-4	TETRACHIOROETHYLENE	ND	5.
109-99-9	TETRAHYDROFURAN	ND	30.
108-88-3 71-55-6	TOLUENE	ND	5.
	1,1,1-TRICHLOROETHANE	ND	5.
79-00-5 79-01-6	1,1,2-TRICHLOROETHANE TRICHLOROETHYLENE	ND	5.
79-01-6 75-69-4	TRICHLOROFLUOROMETHANE	ND	5.
108-05-4	VINYL ACETATE	ND	5.
75-01-4	VINIL ACEIALE VINYL CHLORIDE	ND	30.
95-47-6	TOTAL XYLENES	ND	30.
33-47-0	IOIVI VIDENES	ND	5.

- Wicks

CLIENT: CLAYTON ENVIRONMENTAL

SAMPLE: STOODY, MW-4, 25'

WCAS JOB #: 12126

UNITS: UG/KG (PPB)

COMPOUND NAME

APPROXIMATE FRACTION CONCENTRATION

NONE FOUND

Data Reporting Qualifiers

- Value If the result is a value greater than or equal to the Detection Limit (DL), the value is reported.
- ND Indicates that the compound was analyzed for but not detected. The minimum DL for the sample with the ND is reported based on necessary concentration or dilution actions.
- TR Indicates an estimated value. This flag is used when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified DL but greater than zero.

Widies

Cland Acameling	MOTISA	σ	#12125		Pleasanton, CA 94566		Jenner Divery	Suite 490	160 Fieldcreat Ave.	22345 Roethel Drive Novi, MI 48050
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Clayton Environmental Consultants, Inc.

P.O. Box 9019 • 1252 Quarry Lane • Pleasanton, CA 94566 • (415) 426-2600

April 12, 1989

Mr. Ken Vernon CLAYTON ENVIRONMENTAL CONSULTANTS, INC. 5736 Corporate Avenue P.O. Box 788 Cypress, CA 90630-0788

> Client Ref. No.: 21171.00 Lab Batch No.: 8903183 Clayton Project No.: 21171.77 Client Code No.: 0064

Dear Mr. Vernon:

Attached is our analytical laboratory report for the samples received on March 29, 1989. A copy of the Chain of Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be retained at our facility for approximately 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please call Maryann Gambino, Client Services Representative, at (415) 426-2657.

Sincerely.

Ronald H. Peters, CIH

Manager, Laboratory Services

RHP/tb Attachment

EPA METHOD 624 PURGEABLE ORGANICS

Sample I.D.: Stoody MW-4 Client: STOODY CO.

Sample Received: 03/29/89 Client Ref. No.: 21171.00

Sample Analyzed: 03/30/89 Lab Client Code: 0471

Sample Matrix: Water Lab No.: 8903183-01

Compound	Concentration µg/L (ppb)	Limit of Detection <pre>µg/L (ppb)</pre>
Chloromethane	ND	10
Bromomethane	ND	4
Vinyl chloride	ND	4
Chloroethane	ND	4
Methylene chloride	ND	10
Trichlorofluoromethane	ND	3
1.1-dichloroethene	11	3
1,1-dichloroethane	ND	3
Trans-1,2-dichloroethene	ND	3
Chloroform	ND	3
1,2-dichloroethane	ND	3
1,1,1-trichloroethane	ND	3
Carbon tetrachloride	ND	3
Bromodichloromethane	ND	3
1,2-dichloropropane	ND	3
Cis-1,3-dichloropropene	ND	3
Trichloroethene	44	4
Benzene	ND	2
Dibromochloromethane	ND	2
1,1,2-trichloroethane	ND	3
Trans-1,3-dichloropropene	ND	5
2-chloroethylvinylether	ND	3
Bromoform	ND	3
1,1,2,2-tetrachloroethane	ND	4
Tetrachloroethene	55	4
Toluene	ND	2
Chlorobenzene	ND	3
Ethylbenzene	ND	3
1.3-dichlorobenzene	ND	3
1,2-dichlorobenzene	ND	3
1,4-dichlorobenzene	ND	3
Freon 113	3	3
Total Xylenes	ND	3

ND = Not detected at or above limit of detection.

Stoody MW-4

Sample I.D.:

standard.

STOODY CO.

EPA METHOD 624

PURGEABLE ORGANICS TENTATIVE IDENTIFICATION OF NON-PRIORITY POLLUTANTS

Client:

03/29/89 Client Ref. No.: Sample Received: 21171.00 Lab Client Code: 03/30/89 0471 Sample Analyzed: Lab No.: 8903183-01 Sample Matrix: Water Estimated* Limit of Detection Concentration Scan Compound μg/L (ppb) __(ppb) Number No Non-HSL Compounds Found >10% of nearest internal standard ND = Not detected at or above limit of detection Tentative Identification based on nearest match to NBS library. Estimated concentration based on peak area response of nearest internal

3

EPA METHOD 624 PURGEABLE ORGANICS

Sample I.D.: Method Blank Client: STOODY CO.

Sample Received: Client Ref. No.: 21171.00

Sample Analyzed: 03/30/89 Lab Client Code: 0471

Sample Matrix: Water Lab No.: 8903183-MB

Concentration Limit of Detection Compound μg/L (ppb) (dqq) <u>1\pu</u> Chloromethane ND 10 Bromomethane ND Vinyl chloride ND Chloroethane ND 4 Methylene chloride ND 10 Trichlorofluoromethane ND 1,1-dichloroethene ND 3 1,1-dichloroethane ND Trans-1, 2-dichloroethene ND 3 Chloroform ND 3 1,2-dichloroethane ND 3 1,1,1-trichloroethane ND 3 Carbon tetrachloride ND 3 Bromodichloromethane ND 3 1,2-dichloropropane ND 3 Cis-1,3-dichloropropene ND 3 Trichloroethene ND 4 Benzene ND 2 Dibromochloromethane ND 2 1,1,2-trichloroethane ND 3 Trans-1,3-dichloropropene ND 5 2-chloroethylvinylether ND 3 Bromoform ND 3 1,1,2,2-tetrachloroethane ND 4 Tetrachloroethene ND 4 Toluene ND 2 Chlorobenzene ND 3 Ethylbenzene ND 3 1,3-dichlorobenzene ND 3 1,2-dichlorobenzene ND 3 1,4-dichlorobenzene ND 3 Freon 113 ND 3 Total Xylenes ND

ND = Not detected at or above limit of detection.

INORGANIC LABORATORY ANALYSES

Sample I.D.:	See below	Client:	STOODY CO.
Sample Received:	03/29/89	Client Ref. No.:	21171.00
Sample Analyzed:	04/12/89	Lab Client Code:	0471
Sample Matrix:	Water	Lab No.:	8903183
Batch Sub. No.	Sample Identification		bidity TU)
-01	Stoody MW-4	1	00
-MB	Method Blank		<1
			·

limit of detection:

1

Method Reference:

EPA 180.1

< = less than, below limit of detection</pre>

Batch No.	Project No.	For Clayton Use Only
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PINK - Clayton Accounting	(415) 424-2600	(415) 42	0A 30144 800	Kennesaw, GA 30144 (404) 499-7500	Edison, NJ 08837 (201) 225-8040	(313) 344-1770	
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}					on	Clayton	

February 3, 1989

CLAYTON ENVIRONMENTAL CONSULTANTS 5736 Corporate Avenue

Cypress, CA 90630

RECEIVEL

WEST COAST ANALYTICAL SERVICE, INC.

Attn:

Ken Vernon

FEB 7 1989

ANALYTICAL CHEMISTS

A

JOB NO.

11828

LABORATORY REPORT

Samples Received: Five (5) soil samples

Date Received: 1-24-89

Purchase Order No: 2051/Proj#: 21171.00

The samples were analyzed as follows:

Samples Analyzed Analysis

Results

Five (5) soils

Volatile Organics

by EPA 8240

Data Sheets

Five (5) soils

Total Petroleum Hydrocarbons

by EPA 418.1

Table I

Page 1 of 2

Michael Shelton Senior Chemist D. J Northington, Ph.D. Technical Director

WEST COAST ANALYTICAL SERVICE, INC.

CLAYTON ENVIRONMENTAL CONSULTANTS

Job # 11828 Mr. Ken Vernon February 3, 1989

LABORATORY REPORT

TABLE I

Parts Per Million (ug/g)

Sample No.	Total Petroleum Hydrocarbons
Stoody SB-5,25'	ND
Stoody SB-6,1'	ND
Stoody SB-6,25'	ND
Stoody SB-7,1'	ND
Stoody SB-7,25'	ND
Detection Limit	10

ND-Not Detected

Date Analyzed: 1-26-89

Page 2 of 2



CLIENT: CLAYTON ENVIRONMENTAL SAMPLE: Stoody SB-5,25'

WCAS JOB #: 11828

DATE RECEIVED: 01/24/89 RUN NUMBER: 11828V1
DATE EXTRACTED: 02/01/89 SAMPLE AMOUNT: 1.0G
DATE ANALYZED: 02/01/89 MATRIX: SOIL

EPA METHOD 8240 (624) UNITS: UG/KG (PPB)

CAS #	COMPOUND	CONCENTRATION	DET LIMIT
67-64-1	ACETONE	ND	50.
71-43-2	BENZENE	ND	5.
75-27-4	BROMODICHLOROMETHANE	ND	5.
75-25-2	BROMOFORM	ND	5.
74-83-9	BROMOMETHANE	ND	30.
78-93-3	2-BUTANONE (MEK)	ND	50.
75-15-0	CARBON DISULFIDE	ND	5.
56-23-5	CARBON TETRACHLORIDE	ND	5.
108-90-7	CHLOROBENZENE	ND	5.
75-00-3	CHLOROETHANE	ND	30.
110-75-8	2-CHLOROETHYLVINYL ETHER	ND	50.
67-66-3	CHLOROFORM	ND	5.
74-87-3	CHLOROMETHANE	ND	30.
108-41-8	CHLOROTOLUENE	ND	5.
124-48-1	DIBROMOCHLOROMETHANE	ND	5.
95-50-1	1,2-DICHLOROBENZENE	ND	5.
541-73-1	1,3-DICHLOROBENZENE	ND	5.
106-46-7	1,4-DICHLOROBENZENE	ND	5.
75-34-3	1,1-DICHLOROETHANE	ND	5.
107-06-2	1,2-DICHLOROETHANE	ND	5.
75-35-4	1,1-DICHLOROETHYLENE	ND	5.
156-59-4	CIS-1,2-DICHLOROETHYLENE	ND	5.
156-60-5	TRANS-1,2-DICHLOROETHYLENE	ND	5.
78-87-5	1,2-DICHLOROPROPANE	ND	5.
10061-01-5	CIS-1,3-DICHLOROPROPENE	ND	5.
10061-02-6		ND	5.
100-41-4	ETHYLBENZENE	ND	5.
106-93-4	ETHYLENE DIBROMIDE	ND	5.
76-13-1	FREON-TF	ND	5.
119-78-6	2-HEXANONE	ND	30.
75-09-2	METHYLENE CHLORIDE	ND	50.
108-10-1	4-METHYL-2-PENTANONE (MIBK)	ND	30.
100-42-5	STYRENE	ND	5.
79-34-5	1,1,2,2-TETRACHLOROETHANE	ND	5.
127-18-4	TETRACHLOROETHYLENE	ND	5.
109-99-9	TETRAHYDROFURAN	ND	5.
108-88-3	TOLUENE	ND	5.
71-55-6	1,1,1-TRICHLOROETHANE	ND	5.
79-00-5	1,1,2-TRICHLOROETHANE	ND	5.
79-01-6	TRICHLOROETHYLENE	ND	5.
75-69-4	TRICHLOROFLUOROMETHANE	ND	5.
108-05-4	VINYL ACETATE	ND	30.
75-01-4	VINYL CHLORIDE	ND	30.
95-47-6	TOTAL XYLENES	ND	5.

CLIENT:

CLAYTON ENVIRONMENTAL

SAMPLE: Stoody SB-5,25'

WCAS JOB #: 11828

UNITS: UG/KG (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: CLAYTON ENVIRONMENTAL SAMPLE: Stoody SB-6,1'

WCAS JOB #: 11828

DATE RECEIVED: 01/24/89 RUN NUMBER: 11828V3 DATE EXTRACTED: 02/01/89 SAMPLE AMOUNT: 1.0G

MATRIX: SOIL

DATE ANALYZED: 02/01/89

EPA METHOD 8240 (624) UNITS: UG/KG (PPB)

CAS #	COMPOUND	CONCENTRATION	
67-64-1	ACETONE	ND	50.
71-43-2	BENZENE	ND	5.
75-27-4	BROMODICHLOROMETHANE	ND	5.
75-25-2	BROMOFORM	ND	5.
74-83-9	BROMOMETHANE	ND	30.
78-93-3	2-BUTANONE (MEK)	ND	50.
75-15-0	CARBON DISULFIDE	ND	5.
56-23-5	CARBON TETRACHLORIDE	ND	5.
108-90-7	CHLOROBENZENE	ND	5.
75-00-3	CHLOROETHANE	ND	30.
110-75-8	2-CHLOROETHYLVINYL ETHER	ND	50.
67-66-3	CHLOROFORM	ND	5.
74-87-3	CHLOROMETHANE	ND	30.
108-41-8	CHLOROTOLUENE	ND	5.
124-48-1	DIBROMOCHLOROMETHANE	ND	5.
95-50-1	1,2-DICHLOROBENZENE	ND	5.
541-73-1	1,3-DICHLOROBENZENE	ND	5.
106-46-7	1,4-DICHLOROBENZENE	ND ND	5. 5.
75-34-3	1,1-DICHLOROETHANE	ND ND	5. 5.
107-06-2	1,2-DICHLOROETHANE	ND	5.
75-35-4	1,1-DICHLOROETHYLENE	ND	5.
156-59-4	· · · · · · · · · · · · · · · · · · ·	ND	5. 5.
156-60-5	TRANS-1, 2-DICHLOROETHYLENE	ND	5. 5.
78-87-5	1,2-DICHLOROPROPANE	ND ND	5. 5.
	CIS-1,3-DICHLOROPROPENE	ND	5. 5.
10061-02-6		ND	5. 5.
100-41-4	ETHYLBENZENE	ND	5. 5.
106-93-4	ETHYLENE DIBROMIDE	ND	5.
76-13-1	FREON-TF	ND	5.
119-78-6	2-HEXANONE	ND	30.
75-09-2	METHYLENE CHLORIDE	ND	50. 50.
108-10-1	4-METHYL-2-PENTANONE (MIBK)	ND	30.
100-42-5	STYRENE	ND	5.
79-34-5	1,1,2,2-TETRACHLOROETHANE	ND	5.
127-18-4	TETRACHLOROETHYLENE	ND	5.
109-99-9	TETRAHYDROFURAN	ND	5.
108-88-3	TOLUENE	ND	5.
71-55-6	1,1,1-TRICHLOROETHANE	ND	5 .
79-00-5	1,1,2-TRICHLOROETHANE	ND ND	5 .
79-01-6	TRICHLOROETHYLENE	ND ND	5.
75-69-4	TRICHLOROFLUOROMETHANE	ND	5.
108-05-4	VINYL ACETATE	ND	30.
75-01-4	VINYL CHLORIDE	ND	30.
95-47-6	TOTAL XYLENES	ND	5.
		ND	5.

CLIENT: CLAYTON ENVIRONMENTAL

SAMPLE: Stoody SB-6,1'

WCAS JOB #: 11828

UNITS: UG/KG (PPB)

APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: CLAYTON ENVIRONMENTAL SAMPLE: Stoody SB-6,25'

WCAS JOB #: 11828

DATE RECEIVED: 01/24/89 RUN NUMBER: 11828V4
DATE EXTRACTED: 02/01/89 SAMPLE AMOUNT: 1.0G
DATE ANALYZED: 02/01/89 MATRIX: SOIL

EPA METHOD 8240 (624) UNITS: UG/KG (PPB)

		~~~~~~~~~~	
CAS #	COMPOUND	CONCENTRATION	DET LIMIT
67-64-1	ACETONE	ND	50.
71-43-2	BENZENE	ND	5.
75-27-4	BROMODICHLOROMETHANE	ND	5.
75-25-2	BROMOFORM	ND	5.
74-83-9	BROMOMETHANE	ND	30.
78-93-3	2-BUTANONE (MEK)	ND	50.
75-15-0	CARBON DISULFIDE	7.	5.
56-23-5	CARBON TETRACHLORIDE	ND	5.
108-90-7	CHLOROBENZENE	ND	5.
75-00-3	CHLOROETHANE	ND	30.
110-75-8	2-CHLOROETHYLVINYL ETHER	ND -	50.
67-66-3	CHLOROFORM	ND	5.
74-87-3	CHLOROMETHANE	ND	30.
108-41-8	CHLOROTOLUENE	ND	· 5.
124-48-1	DIBROMOCHLOROMETHANE	ND	5.
95-50-1	1,2-DICHLOROBENZENE	ND	5.
541-73-1	1,3-DICHLOROBENZENE	ND	5.
106-46-7	1,4-DICHLOROBENZENE	ND	5.
75-34-3	1,1-DICHLOROETHANE	ND	5.
107-06-2	1,2-DICHLOROETHANE	ND	5.
75-35-4	1,1-DICHLOROETHYLENE	ND	5.
156-59-4	CIS-1,2-DICHLOROETHYLENE	ND	5.
156-60-5	TRANS-1,2-DICHLOROETHYLENE	ND	5.
78-87-5	1,2-DICHLOROPROPANE	ND	5.
10061-01-5	CIS-1,3-DICHLOROPROPENE	ND	5.
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ND	5.
100-41-4	ETHYLBENZENE	ND	5.
106-93-4	ETHYLENE DIBROMIDE	ND	5.
76-13-1	FREON-TF	ND	5.
119-78-6	2-HEXANONE	ND	30.
75-09-2	METHYLENE CHLORIDE	ND	50.
108-10-1	4-METHYL-2-PENTANONE (MIBK)	ND	30.
100-42-5	STYRENE	ND	5.
79-34-5	1,1,2,2-TETRACHLOROETHANE	ИD	5.
127-18-4	TETRACHLOROETHYLENE	ND	5.
109-99-9	TETRAHYDROFURAN	ИD	5.
108-88-3	TOLUENE	ИD	5.
71-55-6	1,1,1-TRICHLOROETHANE	ND	5.
79-00-5	1,1,2-TRICHLOROETHANE	ND	5.
79-01-6	TRICHLOROETHY LENE	ND	5.
75-69-4	TRICHLOROFLUOROMETHANE	ND	5.
108-05-4	VINYL ACETATE	ND	30.
75-01-4	VINYL CHLORIDE	ND	30.
95-47-6	TOTAL XYLENES	ND	5.

CLIENT: CLAYTON ENVIRONMENTAL SAMPLE: Stoody SB-6,25'

WCAS JOB #: 11828

UNITS: UG/KG (PPB)

APPROXIMATE

COMPOUND NAME 

FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: CLAYTON ENVIRONMENTAL

WCAS JOB #: 11828

SAMPLE: Stoody SB-7,1'

DATE RECEIVED: 01/24/89

RUN NUMBER: 11828V5 DATE EXTRACTED: 02/01/89 SAMPLE AMOUNT: 1.0G DATE ANALYZED: 02/01/89 MATRIX: SOIL

EPA METHOD 8240 (624)

UNITS: UG/KG (PPB)

CAS #	COMPOUND	CONCENTRATION	DET LIMIT
67-64-1	ACETONE	ND	50.
71-43-2	BENZENE	ND	5.
75-27-4	BROMODI CHLOROMETHANE	ND	5.
75-25-2	BROMOFORM	ND	5.
74-83-9	BROMOMETHANE	ND	30.
78-93-3	2-BUTANONE (MEK)	ND	50.
75-15-0	CARBON DISULFIDE	ND	5.
56-23-5	CARBON TETRACHLORIDE	ND	5.
108-90-7	CHLOROBENZENE	ND	5.
75-00-3	CHLOROETHANE	ND	30.
110-75-8	2-CHLOROETHYLVINYL ETHER	ND	50.
67-66-3	CHLOROFORM	ND	5.
74-87-3	CHLOROMETHANE	ND	30.
108-41-8	CHLOROTOLUENE	ND	5.
124-48-1	DIBROMOCHLOROMETHANE	ND	5.
95-50-1	1,2-DICHLOROBENZENE	ND	5.
541-73-1	1,3-DICHLOROBENZENE	ND	5.
106-46-7	1,4-DICHLOROBENZENE	ND	5.
75-34-3	1,1-DICHLOROETHANE	ND	5.
107-06-2	1,2-DICHLOROETHANE	ND	5.
75-35-4	1,1-DICHLOROETHYLENE	ND	5.
156-59-4	CIS-1, 2-DICHLOROETHYLENE	ND	5.
156-60-5	TRANS-1, 2-DICHLOROETHYLENE	ND	5.
78-87-5	1,2-DICHLOROPROPANE	ND	5.
10061-01-5	•	ND	5. 5.
10061-02-6	•	ND	5.
100-41-4	ETHYLBENZENE	ND	5.
106-93-4	ETHYLENE DIBROMIDE	ND	5.
76-13-1	FREON-TF	ND	5.
119-78-6	2-HEXANONE	ND	30.
75-09-2	METHYLENE CHLORIDE	ND	50.
108-10-1	4-METHYL-2-PENTANONE (MIBK)	ND	30.
100-42-5	STYRENE	ND	5.
79-34-5	1,1,2,2-TETRACHLOROETHANE	ND	5.
127-18-4	TETRACHLOROETHYLENE	ND	5.
109-99-9	TETRAHYDROFURAN	ND	5.
108-88-3	TOLUENE	ND	5.
71-55-6	1,1,1-TRICHLOROETHANE	ND	5.
79-00-5	1,1,2-TRICHLOROETHANE	ND	5.
79-01-6	TRICHLOROETHYLENE	ND	5.
75-69-4	TRICHLOROFLUOROMETHANE	ND	5. ·
108-05-4	VINYL ACETATE	ND	30.
75-01-4	VINYL CHLORIDE	ND	30.
95-47-6	TOTAL XYLENES	ND	5.
		ND	

CLIENT: CLAYTON ENVIRONMENTAL

SAMPLE: Stoody SB-7,1'

WCAS JOB #: 11828

UNITS: UG/KG (PPB)

APPROXIMATE

COMPOUND NAME 

FRACTION CONCENTRATION

1 NONE FOUND

CLIENT: CLAYTON ENVIRONMENTAL SAMPLE: Stoody SB-7,25'

WCAS JOB #: 11828

DATE RECEIVED: 01/24/89 RUN NUMBER: 11828V2
DATE EXTRACTED: 02/01/89 SAMPLE AMOUNT: 1.0G
DATE ANALYZED: 02/01/89 MATRIX: SOIL

EPA METHOD 8240 (624) UNITS: UG/KG (PPB)

CAS #	COMPOUND	CONCENTRATION	DET LIMIT
67-64-1	ACETONE	ND	50.
71-43-2	BENZENE	ND	5.
75-27-4	BROMODICHLOROMETHANE	ND	5.
75-25-2	BROMOFORM	ND	5.
74-83-9	BROMOMETHANE	ND	30.
78-93-3	2-BUTANONE (MEK)	ND	50.
75-15-0	CARBON DISULFIDE	ND	5.
56-23-5	CARBON TETRACHLORIDE	ND	5.
108-90-7	CHLOROBENZENE	ИD	5.
75-00-3	CHLOROETHANE	ND	30.
110-75-8	2-CHLOROETHYLVINYL ETHER	ND	50.
67-66-3	CHLOROFORM	ND	5.
74-87-3	CHLOROMETHANE	ND	30.
108-41-8	CHLOROTOLUENE	ND	5.
124-48-1	DIBROMOCHLOROMETHANE	ND	5.
95-50-1	1,2-DICHLOROBENZENE	ND	5.
541-73-1	1,3-DICHLOROBENZENE	ND	5.
106-46-7	1,4-DICHLOROBENZENE	ND	5.
75-34-3	1,1-DICHLOROETHANE	ND	5.
107-06-2	1,2-DICHLOROETHANE	ND	5.
75-35-4	1,1-DICHLOROETHYLENE	ND	5.
156-59-4	CIS-1,2-DICHLOROETHYLENE	ND	5.
156-60-5	TRANS-1,2-DICHLOROETHYLENE	ND	5.
78-87-5	1,2-DICHLOROPROPANE	ND	5.
10061-01-5	CIS-1,3-DICHLOROPROPENE	ND	5.
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ND	5.
100-41-4	ETHYLBENZENE	ND	5.
106-93-4	ETHYLENE DIBROMIDE	ND	5.
76-13-1	FREON-TF	ND	5.
119-78-6	2-HEXANONE	ND	30.
75-09-2	METHYLENE CHLORIDE	ND	50.
108-10-1	4-METHYL-2-PENTANONE (MIBK)	ND	30.
100-42-5	STYRENE	ND	5.
79-34-5	1,1,2,2-TETRACHLOROETHANE	ND	5.
127-18-4	TETRACHLOROETHYLENE	ND	5.
109-99-9	TETRAHYDROFURAN	ND	5.
108-88-3	TOLUENE	ND	5.
71-55-6	1,1,1-TRICHLOROETHANE	ND	5.
79-00-5	1,1,2-TRICHLOROETHANE	ND	5.
79-01-6	TRICHLOROETHYLENE	ND	5.
75-69-4	TRICHLOROFLUOROMETHANE	ND	5.
108-05-4	VINYL ACETATE	ND	30.
75-01-4	VINYL CHLORIDE	ND	30.
95-47-6	TOTAL XYLENES	ND	5.

Mark

CLIENT:

CLAYTON ENVIRONMENTAL

SAMPLE: Stoody SB-7,25'

WCAS JOB #: 11828

UNITS: UG/KG (PPB)
APPROXIMATE

COMPOUND NAME

FRACTION CONCENTRATION

1 NONE FOUND

#### Data Reporting Qualifiers

- Value If the result is a value greater than or equal to the Detection Limit (DL), the value is reported.
- ND Indicates that the compound was analyzed for but not detected. The minimum DL for the sample with the ND is reported based on necessary concentration or dilution actions.
- TR Indicates an estimated value. This flag is used when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified DL but greater than zero.

# CHAIN OF CUSTODY

# CLAYTON ENVIRONMENTAL CONSULTANTS

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		nature)	)		CLIENT	Informa	TION		
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PHON	<u> </u>				COMPANY	NAME:	CLAYTON A		10045-5-1
_	YTICAL LABOR	· · · -			PHONE N	10.: <u>F</u>	114) 229-4	4806	MENTAL
	COAST ANAL		vices, JAC.	•	P.O./JO		2/17/.00		
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SAVI							P.O. 80x	788	7708.
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Dell's		4.51		149	18nt.	WCAS		1-24-89	
Kelln	equished by:	(Signa)	ture)	Re	ceived	by: (S	ignature)	Date	Time
*Apaly:	sis laboratory sh	ould complete	* *Carala Ca			7/2	1828		
copy	sis laboratory shi to Clayton Environ	nmental Cons	iltants, Inc	P.O. Box	n Receipt 9019, Ple	, section   asanton, C	below, sign and	return to	»p
CLAYT	ON LAB BATC	E #				B CLIEN			
Dash #	Sample I.D.	Date	Matrix	Quan.	Cont.	Pres.	Analysis		Cond.
	5, way 58.525'	/-23-89	Soil	(Dup.)	Size		Requeste EPA 8240C	g , i	Rec.d
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	57000y 58-72			4	••		EPA 8240 (1.8/4 A13	Paus) -	
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BC=Brass SSC=Stai	s core Inless Steel Co		L=Pilter S=Cassette	•		B HOUTE	co	MDITIONS	3
Cu <b>t-</b> Copi	PER TUBE	CH	"=CHARCOAL	TUBE		Ganic Vap Ni <b>tor</b>	OR		_
₽Õ=AIDE	MOUTH SQUAT JA	UR SG1	r=Silica G	EL TUBE			HID A	SP=HEADS	iPACE

A/B=AIR BUBBLE

#### Clayton Environmental Consultants, Inc.

P.O. Box 9019 • 1252 Quarry Lane • Pleasanton, CA 94566 • (415) 426-2600

February 8, 1989

Mr. Ken Vernon
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
5736 Corporate Avenue
P.O. Box 788
Cypress, CA 90630-0788

Client Ref. No.: 21171.00 Lab Batch No.: 8902022

Clayton Project No.: 21171.77

Client Code No.: 0471

Dear Mr. Vernon:

Attached is our analytical laboratory report for the samples received on February 3, 1989. A copy of the Chain of Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be retained at our facility for approximately 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Client Services at (415) 426-2657.

Sincerely,

Ronald H. Peters, CIH

Manager, Laboratory Services

RHP/mn Attachment

#### INORGANIC LABORATORY ANALYSES

Sample I.D.: See below Client: Stoody

Sample Received: 02/03/89 Client Ref. No.: 21171.00

Sample Analyzed: 02/03/89 Lab Client Code: 0471

Sample Matrix: Water Lab No.: 8902022

Batch Sub. No.	Sample Identification	Turbidity (NTU*)
01	MW - 1A	150
02	MW - 2A	6.6
03	MW - 3A	23
MB	Method Blank	0.2
-		
-		
-		
	·	
		·

Limit of detection:

0.1

Method Reference:

EPA 180.1

^{* =} Nephelometric Turbidity Units

# EPA METHOD 624 PURGEABLE ORGANICS

Sample I.D.: MW -1A

Client:

Stoody

Sample Received:

02/03/89

Client Ref. No.:

21171.00

Sample Analyzed:

02/03/89

Lab Client Code:

0471

Sample Matrix:

Water

Lab No.:

8902022-01

Compound	Concentration	Limit of Detection <pre>µg/L (ppb)</pre>
Chloromethane	ND	10
Bromomethane	ND	4
Vinyl chloride	ND	4
Chloroethane	ND	4
Methylene chloride	ND	10
Trichlorofluoromethane	ND	3
1,1-dichloroethene	31	3
1,1-dichloroethane	ND	3
Trans-1,2-dichloroethene	ND	3
Chloroform	ND	3
1,2-dichloroethane	ND	3
1,1,1-trichloroethane	ND	3
Carbon tetrachloride	ND	3
Bromodichloromethane	ND	3
1,2-dichloropropane	ND	3
Cis-1,3-dichloropropene	ND	3
Trichloroethene	130	4
Benzene	ND	2
Dibromochloromethane	ND	2
1,1,2-trichloroethane	ND	6
Trans-1,3-dichloropropene	ND	5
2-chloroethylvinylether	ND	3
Bromoform	ND	3
1,1,2,2-tetrachloroethane	ND	4
Tetrachloroethene	190	4
Toluene	3	2
Chlorobenzene	ND	3
Ethylbenzene	ND	3
1,3-dichlorobenzene	ND	3
1,2-dichlorobenzene	ND	3
1,4-dichlorobenzene	ND	3
Freon 113	10	3
Total Xylenes	ND	3

ND = Not detected at or above limit of detection.

MW-1A

standard.

#### EPA METHOD 624

#### PURGEABLE ORGANICS TENTATIVE IDENTIFICATION OF NON-PRIORITY POLLUTANTS

Client:

STOODY Sample I.D.: 02/03/89 Client Ref. No.: Sample Received: 21171.00 Sample Analyzed: 02/03/89 Lab Client Code: 0471 Lab No.: Water 8902022-01 Sample Matrix: Estimated* Limit of Concentration Scan Detection Compound μg/L (ppb) __(ppb) Number No additional compounds detected ND = Not detected at or above limit of detection Tentative Identification based on nearest match to NBS library.

Estimated concentration based on peak area response of nearest internal

#### EPA METHOD 624 PURGEABLE ORGANICS

Sample I.D.:

MW -2A

Client:

Stoody

Sample Received: 02/03/89

Client Ref. No.:

21171.00

Sample Analyzed:

02/03/89

Lab Client Code:

0471

Sample Matrix:

Water

Lab No.:

8902022-02

Compound	Concentration	Limit of Detection <pre>µg/L (ppb)</pre>
Chloromethane	ND	10
Bromomethane	ND	4
Vinyl chloride	ND	4
Chloroethane	ND	4
Methylene chloride	ND	10
Trichlorofluoromethane	ND	3
1,1-dichloroethene	61	3
1,1-dichloroethane	ND	3
Trans-1,2-dichloroethene	ND	3
Chloroform	ND	3
1,2-dichloroethane	ND	3
1,1,1-trichloroethane	ND	3
Carbon tetrachloride	ND	3
Bromodichloromethane	ND	3
1,2-dichloropropane	ND	3
Cis-1,3-dichloropropene	ND	3
Trichloroethene	130	4
Benzene	31	2
Dibromochloromethane	ND	2
1,1,2-trichloroethane	ND	6
Trans-1,3-dichloropropene	ND ND	5
2-chloroethylvinylether	ND	3
Bromoform	ND	3
1,1,2,2-tetrachloroethane	ND	4
Tetrachloroethene	160	4
Toluene	39	2
Chlorobenzene	39	3
Ethylbenzene	ND	3
1,3-dichlorobenzene	ND	3
1,2-dichlorobenzene	ND	3
1,4-dichlorobenzene	ND	3
Freon 113	8	3
Total Xylenes	ND	3

ND = Not detected at or above limit of detection.

#### EPA METHOD 624

# PURGEABLE ORGANICS TENTATIVE IDENTIFICATION OF NON-PRIORITY POLLUTANTS

MW-2A Client: Sample I.D.: STOODY 02/03/89 Client Ref. No.: 21171.00 Sample Received: Sample Analyzed: 02/03/89 Lab Client Code: 0471 Lab No.: Water 8902022-02 Sample Matrix: Estimated* Limit of Concentration Scan Detection Compound μg/L (ppb) (ppb) Number No additional compounds detected

ND = Not detected at or above limit of detection

Tentative Identification based on nearest match to NBS library.

Estimated concentration based on peak area response of nearest internal standard.

# EPA METHOD 624 PURGEABLE ORGANICS

Sample I.D.: MW -3A Client: Stoody

Sample Received: 02/03/89 Client Ref. No.: 21171.00

Sample Analyzed: 02/03/89 Lab Client Code: 0471

Sample Matrix: Water Lab No.: 8902022-03

	Concentration	Limit of Detection
Compound	hd/r (bbp)	μg/L (ppb)
Chloromethane	ND	10
Bromomethane	ND	4
Vinyl chloride	ND	4
Chloroethane	ND	4
Methylene chloride	ND	10
Trichlorofluoromethane	ND	3
1,1-dichloroethene	ND	3
1,1-dichloroethane	ND	3
Trans-1,2-dichloroethene	ND	3
Chloroform	ND	3
1,2-dichloroethane	ND	3
1,1,1-trichloroethane	ND	3
Carbon tetrachloride	ND	3
Bromodichloromethane	ND	3
1,2-dichloropropane	ND	3
Cis-1,3-dichloropropene	ND	3
Trichloroethene	25	4
Benzene	ND	2
Dibromochloromethane	ND	2
1,1,2-trichloroethane	ND	6
Trans-1,3-dichloropropene	ND	5
2-chloroethylvinylether	ND	3
Bromoform	ND	3
1,1,2,2-tetrachloroethane	ND	4
Tetrachloroethene	64	4
Toluene	ND	
Chlorobenzene	ND	3
Ethylbenzene	ND	3
1,3-dichlorobenzene	ND	3
1,2-dichlorobenzene	ND	3
1,4-dichlorobenzene	ND	3
Freon 113	ND	3
Total Xylenes	ND	3
-		

ND = Not detected at or above limit of detection.

#### EPA METHOD 624

# PURGEABLE ORGANICS TENTATIVE IDENTIFICATION OF NON-PRIORITY POLLUTANTS

MW-3A Client: STOODY Sample I.D.: 02/03/89 Client Ref. No.: 21171.00 Sample Received: 02/03/89 Lab Client Code: 0471 Sample Analyzed: Lab No.: 8902022-03 Water Sample Matrix: Estimated* Limit of Concentration Detection Scan Compound μg/L (ppb) (ppb) Number No additional compounds detected ND = Not detected at or above limit of detection Tentative Identification based on nearest match to NBS library.

Estimated concentration based on peak area response of nearest internal

standard.

#### EPA METHOD 624 PURGEABLE ORGANICS

Method Blank Client: Sample I.D.:

Stoody

Sample Received:

Client Ref. No.:

21171.00

Sample Analyzed:

02/03/89 Lab Client Code:

0471

Sample Matrix:

Water

Lab No.:

8902022-MB

Common de la commo	Concentration µg/L (ppb)	Limit of Detection $\mu g/L$ (ppb)
Compound	<u> </u>	<u> 1471 (ppa)</u>
Chloromethane	ND	10
Bromomethane	ND ND	4
Vinyl chloride	ND	4
Chloroethane	ND	4
Methylene chloride	ND ND	10
Trichlorofluoromethane	ND	3
1,1-dichloroethene	ND	3
1,1-dichloroethane	ND	3
Trans-1, 2-dichloroethene	ND	3
Chloroform	ND	3
1,2-dichloroethane	ND	3
1,1,1-trichloroethane	ND	3
Carbon tetrachloride	ND	3
Bromodichloromethane	ND	3
1,2-dichloropropane	ND	3
Cis-1,3-dichloropropene	ND ND	3
Trichloroethene	ND	4
Benzene	ND	2
Dibromochloromethane	ND	2
1,1,2-trichloroethane	ND	6
Trans-1,3-dichloropropene	ND	5
2-chloroethylvinylether	ND	3
Bromoform	ND	3
1,1,2,2-tetrachloroethane	ND	4
Tetrachloroethene	ND	4
Toluene	ND	2
Chlorobenzene	ND	3
Ethylbenzene	ND	3
1,3-dichlorobenzene	ND	3
1,2-dichlorobenzene	ND ND	3
1,4-dichlorobenzene	ND	3
Freon 113	ND	3
Total Xylenes	ND	3

ND = Not detected at or above limit of detection.

# Clayton

# REQUEST FOR LABORATORY

	Date Received	Client No.	Project No. & 1171	For Clayton Use Only
77-7	2-4-12	14C	1171. 00	Only Page
₹9   By	}9 By	4	3	,
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٠. تو ع	2 23	Rioss		Authori	(If required)	CUSTODY	CHAIN						10%	2	ŀ	57000,	ķ	Sanal		* Explai	Species		Date Re		SE NVC	ND NCE D		Purchas		
(313) 344-1770	22345 Roethel Drive	return completed form		Authorized by:	ired) Method of Shipment:		Relinquished by:						11/10	27)-2/	- 1	12- MW-2(A+X)	-	DOL - MW-1/A:B	CLIENT SAMPI	* Explanation of Preservative:	menucuona: (menuou, ii	in the second se	Date Results Required:	City, State, Zip	Address	Company & 25- C	Name KEN /	Purchase Order No.	A Marsh & McLennan Company	CONSULTANTS
Edison, NJ 08837 (201) 225-8040	Raritan Center	Rease return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:	(Client Signature Must Accompany Request)	elia-	3:		Kan Ville	1						(X; X)		\$ Company	-	(8)	CLIENT SAMPLE IDENTIFICATION		Results 10	Carried In the detection phone results, rush results, etc.)	Rush Cha			Y PRKISS	ERMON	Cile	npany	S
Kennesaw, GA 30144 (404) 499-7500	400 Chastain Center Blvd., N.W. Suite 490	Clayton Environ	y Request)					-						-		2		2-2-89	DATE SAMPLED		Key Vernay	esuits, rush resul	Rush Charges Authorized?					Cilent Job No. 2/		Þ
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